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Thanks also to the Boston Architectural Center's Board of Directors and student organization, Atelier, for their contributions.

«Theory | Praxis»

A Journal of the
Boston Architectural Center

«Theory | Praxis» is a journal of the Boston Architectural Center. It is edited and produced by students, faculty, alumni and members of the Center.

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The editors gratefully acknowledge the tireless efforts of Bernard J. Goba, AIA, Chairman of the Center's Board of Directors. The Center's administration has provided much-needed assistance. Appreciation is also extended to the student organization, Atelier, for their help.
Thanks also to Oscar Merz, Will Ruhl, Ed Warner and Marianne Takas. Eternal gratitude to Elisabeth Carr-Jones.
This journal is dedicated to the students, faculty, alumni and members of the Boston Architectural Center.

1994

Laura Robinson
The Negotiation of a Cut

Professional work: Brad Johnson
MBTA Operations Center

Thesis: Cathy Bell & Scott Thompson

Professional work: Michael Tyrrell
Rolling Bridge Initiative

Eric Gould
Speaking Architecturally

Paul Naecker
Architecture as Building

Bill Boehm
Segment Two Studio

Professional work: Giancarlo Del Vita
Bulthaup Furniture Store

Hailim Suh
Segment One Studio

Anthony Frausto-Robledo
Emerging Figures and Embedded Archetypes

Santiago Perez
Minimal Complexity

Keith Hudson
Segment Two Studio

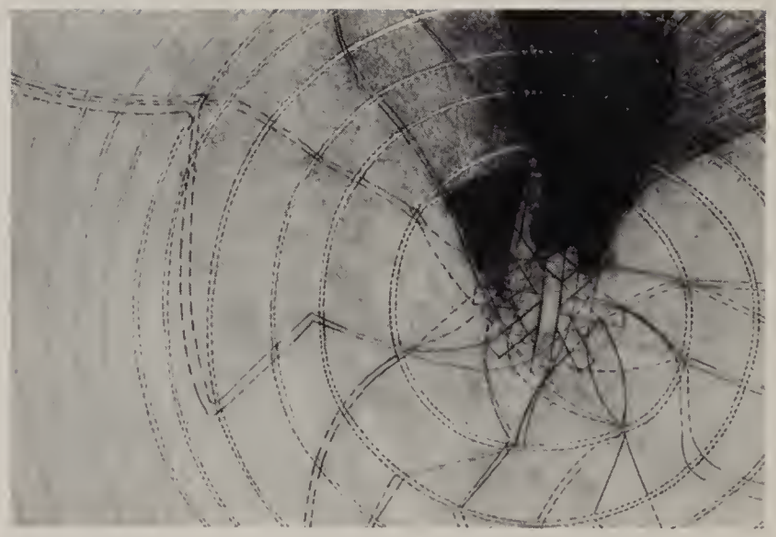
Professional work: Paul Naecker
No Metaphor House

Thesis: Heather Critchfield & David Rifkind

Thesis: Regina Bleck & Martin Smith

Ralph Nelson & Raveevarn Chocksombatchai
Glance; Glean

Preface



The plaza in front of Harvard Square's Holyoke Center is pretty much filled continuously from March to October with café-goers, chess players, tourists and all sorts of outpatients. Sometimes, a young boy sets up a one-kid puppet show with a homemade proscenium fashioned from 2x4's and a blue tarpaulin. The puppeteer has assembled a cast from dozens of stuffed animals that serve as characters in a series of quick improvisations. The boy provides distinct voices for each of his players, differentiated by subtle inflections and shifting intonations, all shouted into a crude amplifier.

Changing voice is a technique common to puppeteers and architects. Like the term *studio*, which suggests both an office and a classroom, architecture thrives on the coexistence of academic and professional pursuits. The title of this journal, «Theory | Praxis», embodies the shifting of voice between practitioner and student.

This journal depicts projects executed by students, faculty and graduates of the Boston Architectural Center. The Center's curriculum of simultaneous professional practice and academic study provides the context in which those who are at once both students and practitioners, teachers and professionals, investigate architecture through the critical lenses of the academy and the field.

The production of this journal is a collaborative, volunteer effort by students and alumni of the Boston Architectural Center.

David Rifkind

Introduction

EYTAN FICHMAN

At times there is a chance, amidst the activity, to almost see the whole at once. It is a bit like the imaginary view in the Richard Haas' trompe l'oeil mural on the Center's west wall. Yet it is also like a plummet. You start at the top and descend.

Books surmount the concrete frame. Library stacks and tables, on the sixth floor, circumscribe and fix the high-ceilinged reading room. The Memorial Library, at the periphery, lined with aged tomes behind glass, is a relic space and meeting room, transferred from the Center's former quarters. Students and faculty enter and gather in the main library, studying, and speaking softly. Footfalls down the concrete stair bring you to the fifth floor, the principal studio floor. You look in on the thesis students, and wind around through the evening's studios, seeing students and faculty, stopping and listening to the interchanges; moving from one arena of ideas to another. Then, down again, to four, where seminars and computer classes are meeting, and pixels form stairs amid the sound of keystrokes.

If you strike the rails in the stair wells with the heel of your hand, they sound against the concrete wall like bells almost

too deep to hear.

The third floor's big classrooms and studios gather the students of physics and structures and drawing and design. Cascieri Hall, on two, holds within its concrete enclosure, the large lecture classes. Thesis presentations are going on nearby, and a studio's work is pinned up in the hall. You look over the bridge edge into the lobby exhibition space, perhaps a show of thesis work; the lobby visually transparent to the street. Gradually seeping through now, almost like water soaking in, you get below ground, where a shanty-town of partitions and parallel rules holds fort, with Back Bay bricks fast against earth; and where an old coal shoot gapes black.

The program begins with learning to unlearn, shedding; learning to see again as a maker, not taking the given for granted; learning, as Wright said, to do more than look *at* things - to look into things; to think abstractly, to analyze, applying all the senses. Knowledge, skills, and awareness, each in their turn, move the students forward; analysis and synthesis loosening and tightening in a cadence of searching and seeing.

Inside and outside speak to each other in the BAC's conjoining of Architecture and Interior Design Programs. They share the Foundation years and then branch according to their disciplinary needs, yet always with the potential to cross, and thereby enrich. The middle years are more open, academic options mixing with requirements, allowing and encouraging the emergence of an individual's sense of direction, generally and professionally, as the responsibilities and opportunities of the daytime grow apace.

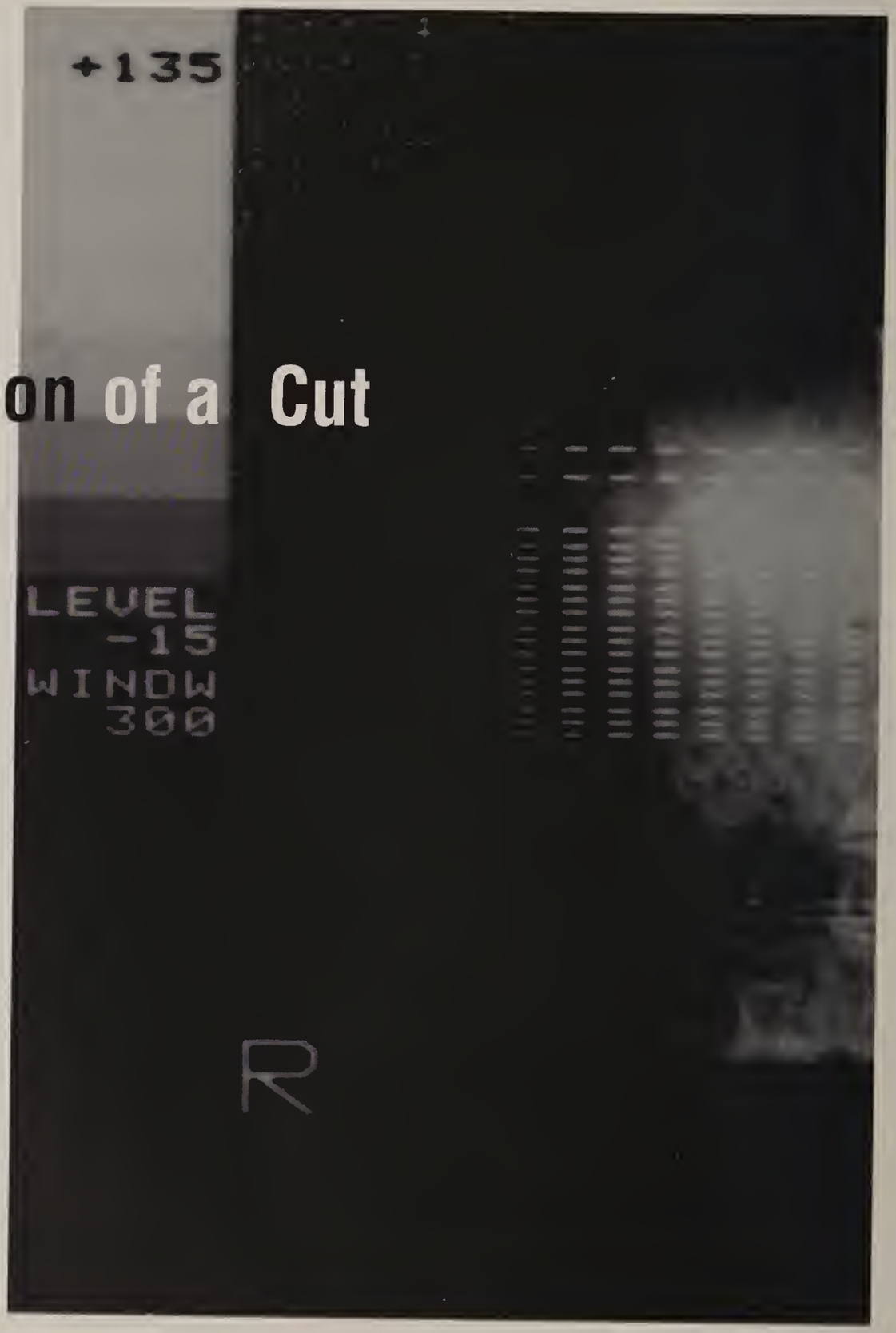
The days bring students to the workplaces, their daytime studios. Sometimes they join the struggle of makers, in the world, with all its exigencies, engaging ideas' actualization. They know they are becoming these people, or hoping to exceed them, as they work among them. Other days they might learn 'how things are done', only to study and *critique* the doing and *posit* the undoing; getting at *how things might be done*, during the night. A tidal ebb and flow of convention and critique, absorption and speculation. Learning by day and by night over years of hard long-distance running.

The student's thesis occupies much of the last year with its intensive focus, giving voice to direction, testing premise through vehicle, idea through technique, and inquiry against result. The thesis celebrates ideation as manifest in proposals for built form. It seeks to bridge the tangibility of making things in the world with the ethereality of the intentions behind thoughts. There the strands of professional and general education can wind with the curriculums of academy and workplace.

The Center is not a point, it is a place, where the aspiration of student and teacher meet, working in the world, and 'moonlighting' in the studios and classes, daily and nightly. As a place of meeting, the Center sustains both academic and professional networks of exchange, as it did one hundred years ago. It is an egalitarian place, giving access to all. It is an approachable place of meeting, for teacher and student, for colleagues and co-workers in the design community. It is always invested with extraordinary commitment.

The Negotiation of a Cut

LAURA ROBINSON



There was a certain rich man who was clothed in purple and fine linen and who fared sumptuously every day. And there was a certain beggar, named Lazarus, who was laid at his gate, full of sores and desiring to be fed with crumbs from the rich mans table. . . And it came to pass that the beggar died, and was carried by the angels into Abraham's bosom; the rich man also died and was buried; and in hades, he lifted up his eyes, being in torments, and seeth Abraham afar off, and Lazarus in his bosom.

And he cried and said, 'Father Abraham, have mercy on me, and send Lazarus, that he may dip the tip of his finger in water, and cool my tongue; for I tormented in this flame.'

But Abraham said 'Son, . . . between us and you a great gulf fixed, so that they who would pass from here to you cannot; neither can they pass to us that would come from there'.

Luke 16: 19-26

This parable hinges about a cut. Throughout his life

This parable hinges about a cut. It tells the story of a man's journey through the earthly fabric, and his re-interpretation of the structure of his own mortal path, when viewed from beyond.

Throughout his life on earth, the rich man separated himself from Lazarus by a comfortable distance. From this earthly perspective, he could describe the space as a seemingly small one: a mere schism or shearing of focus, which had enabled him to overlook the beggar.

At the end of the parable, however, finding himself deep in the chasm of Hades, the simplicity of his earthly perception is undermined. For it is only from the vantage point of the underworld, that he is capable of realizing that the seemingly minimal gap by which he separated his own earthly life from that of Lazarus is perceived differently from within the earthly realm, and from without.

For the moment of the rich man's death acts as a hinge allowing the architecture of the parable to unfold. Viewed from Hades, the form of his earthly passage is revealed to him, as an unexpected landscape. Here he recognizes that the path which he forged during his lifetime was actually a journey - a cut - with which he controlled his own destiny with unsuspecting facility and directness. For the architecture of his own path moulded not only the bounds of the chasm, but also the form of the realms which it divided. From this vantage point, his own life's journey, a cut which had originally been informed by bounds which he would not cross, is ultimately revealed to him as a chasm which he could not cross.

The act of making a cut is comprised of two phases: an act of separation, and an act of revelation. The former, is accomplished through an act of passage, a path which gives form to the resultant parts. This is analogous to the path of the rich man's life. The latter, analogous to his ultimate view from Hades, is an interpretation of the pieces formed.

The act of cutting an entity into parts for intellectual study is the literal definition of analysis, a word which is derived from the Greek root *analusis*, meaning *a releasing*. Analysis involves such a release on multiple levels. Literally it requires the release of a whole into its parts. Simultaneously, it begs the release of preconceived findings which obstruct analytical discovery.

Analytical acts may be conceived in several ways. One approach is to sever an object into pre-named systems or elements, as in the extraction of the elements of the digestive, circulatory, and reproductive systems in a textbook dissection. In this case, it is the definition of the subdivisions, rather than the path of the knife which is predetermined.

Alternatively, an object may be severed in accordance with a predetermined path. This occurs, for example, when an object is cut in a series of parallel slices, such as the carving of a fish into steaks, or upon rotating the knife 90° carving filets: two predetermined processes which yield

2.1. An apple: vertical sections

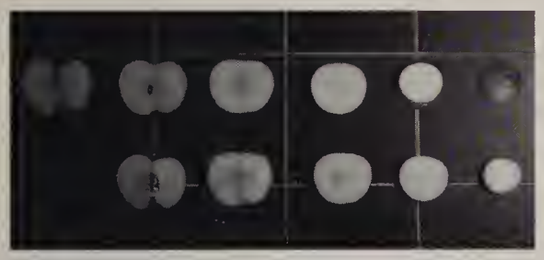
2.2. An apple: horizontal sections

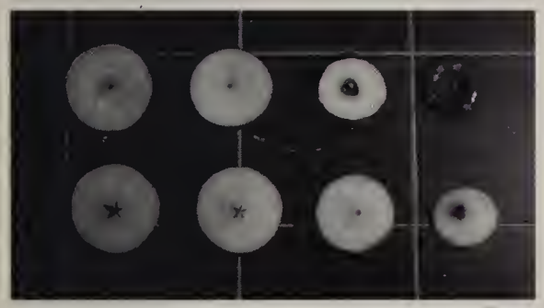
on earth,

unidentically priced cuts of the same meat.

Finally, a cut may be negotiated from within, its direction and form negotiated through a progressively interactive response to the immediate surroundings of the tip of the knife. In this case, neither the path of the knife, nor the bounds of the resultant pieces is predetermined. Rather, the process, informed by an internal rigor, is one of local negotiation. It is this type of cut which is exemplified by the life journey of the rich man.

1. An apple: seeds, flesh, stem and skin





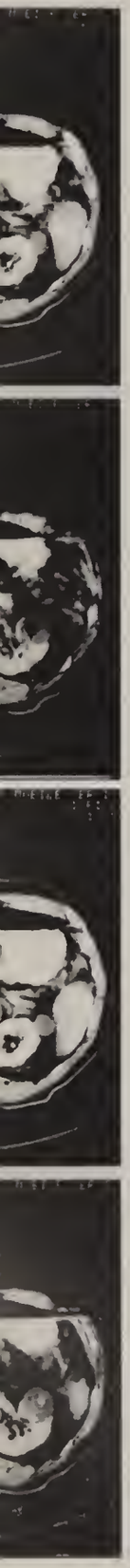
The first type of cut, that of isolating predetermined elemental forms, is illustrated by the example of figure 1, in which an apple has been cut to show its stem, skin, flesh and seeds. The observations which can be gleaned from the series of cuts relate directly back to these elements: the curvature of the *stem,* the opacity of the *skin*, or the quantity of *seeds*. This framework of elemental observation invites comparison to other apples of this type, of other types, and of other fruits, all sharing variants of these specified elements.

Figures 2.1 and 2.2 illustrate the second type of cut, in which two similar apples have been severed into parallel slices. Here, the cutting tool and predetermined process dictate the form of the resulting portions, while, again, the orientation of the cuts delimit the type of information revealed. In the transverse sections, the apple's symmetry appears to be pentagonal, recalling the form of the five petalled flower from which it evolved.

In the vertical sections, however, the cuts are made parallel to the force of gravity - a force which bears little influence on the flowering stages of the fruit's development. The vertical cuts reveal not a pentagonal, but rather a bilateral symmetry. Here, deviations from strict symmetry illustrate evidence of the apple's struggle for light, space, and air, while, subjected to the regulating influence of gravity . Unlike the flower, the fruit negotiates these forces, as it is constantly pulled under its own weight, growing about its own, slightly drifting center of gravity.

Often, the results of such predetermined cuts reveal an unexpected structure, a relationship which may have become apparent as a result of, and may well be related to, the specific orientation of the cut. The following examination of a CAT scan suggests such a structure: a phenomenon which, by its nature, eludes mention in the anatomical classification of the basic biology text.

The CAT scan is a non invasive procedure, which produces a series of parallel sections taken through the human body, similar in spirit to those taken through the apple. The CAT scan image is created by placing the human body onto a horizontal bed, which passes through a ring of multiple cameras. Each of the cameras in the ring takes a low power x-ray, and the information is passed into a computer, which transforms the data gathered from multiple points within the plane of the cut, into a single composite view, which appears to be taken perpendicular to this plane. Thus the series



of sectional views cut through the torso, illustrated in figure 3, represent a view of the body which had never been seen in a live patient prior to the invention of this technology.

To the uninitiated, preliminary views of the CAT scan reveal a number of surprising relationships. Deviations from presumed bilateral symmetry are striking, as, for example, the top of the left kidney just begins to emerge into the same plane in which the right kidney is as wide as a golf ball.

Yet more jarring, perhaps, than any other area of the scan is the machinelike line, uncompromising in its straightness, severing the stomach in half; the lower portion a bright white, and the upper, jet black. Its geometry is unlike any other within the image.

This piercing line, is not the boundary of an anatomical nature, but rather a glimpse of an internal horizon, an instrument of the highest precision, which maintains its orientation with respect to the core of the earth, while with every human motion, it renegotiates the boundaries of its volume within the sack of the stomach. It is, of course, only through sections taken parallel to the force of gravity, that this analytic horizon, which remains constantly independent from the geometry of its container, is revealed.

Upon realizing this, I was reminded of a remark uttered by the doctor who gave me the CAT scans: that upon the invention of this machine, radiologists had to be trained to re-recognize anatomical elements and to re-interpret their relationships from this perspective, a procedure which has revealed previously elusive relationships.

While, as in each of the cuts discussed thus far, the form of the cut and the information delimited are mutually linked, in the final case, neither the form of the cut, nor the resulting portions is known at the outset.

In order to initiate this type of cut, the apple of the first two cuts is replaced by a Chinese apple, otherwise known as a pomegranate. Figure 4 shows the results of the imposition of a series of parallel cuts on the Chinese apple, in which no clear geometry is revealed, as the order of this fruit eludes discovery through this familiar cutting process.

The process of severing the Chinese apple in a way which might reveal clearly a logic of its elusive structure, becomes, therefore, an analytical search. It is a negotiation which commands engagement and invites discovery. The shape of the cut is unknown at the outset. Its definition is a stepwise, spatial search, unrestrained by pre-conception, as the silent fruit reveals its structure only under the progressively destructive action of the knife. It is a search in which I invite the reader to indulge.

Returning to the scale of the rich man, the analytic cuts imposed on the apple and pomegranate may be recognized as means of making cuts, or pathways through

3. The human torso: horizontal CT scan

4. Pomegranate: horizontal sections

the landscape. An unfamiliar city may be experienced and subsequently understood through a series of cuts, approached in a manner similar to the fruit. One may, for example, ride a tour bus, stopping to focus only on a check list of monuments or pre-determined elements - the skin, stem, and seeds - of a city. Alternatively, one may choose to stroll the length of specific streets or boulevards, casting longitudinal paths through the city's fabric. Or, one may choose to wind through the city's fabric without a pre-determined path or destination, committing to direction only upon the crossing of each intersection.

It would be seemingly misguided, however, to assume that all environments invite each of the three approaches equally. For just as the pomegranate was substituted for the apple in order to instill sufficient disorientation to invite a negotiated cut, so too, the design of an environment and its fabric affect the type of paths cut through it, and the discoveries revealed within. It is useful to consider this experience of *analusis* with regard to the fabric of two landscapes: the zoo, and the woods.

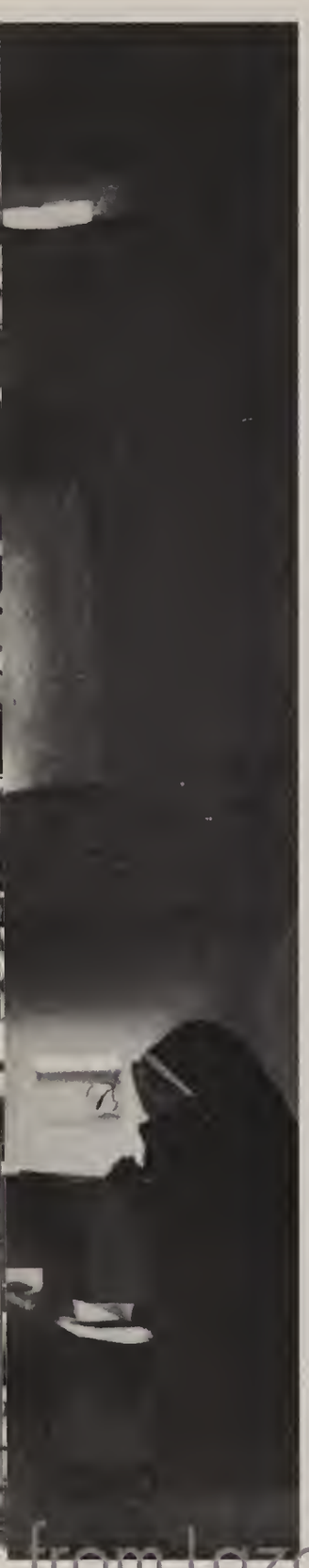
When one visits the zoo, one's understanding of relationships in animal kingdom is moulded by the system of classification outlined in its directory. Facing a sign marked with an arrow indicating "YOU are HERE", one makes a selection of destination: in older zoos: the Reptile House, or the Otters, in new zoos, Carnivore Kingdom, or the Rain Forest.

The zoo is a necessarily artificial environment, which enables, for example, a giraffe to live in Boston. Each of the animal habitats is created in a highly specific manner, which is dictated both by a finite list of required environmental parameters and constraints of visual access by the public. The environments themselves are educational tools, both revealing, and choreographing the habits of the inhabitants. (The newly renovated Philadelphia Zoo boasts a heating system installed just under the surface of its most visible artificial rocks, to entice its lions to stick to the script).

Both this high degree of environmental specificity, as well as educational motives, often results in a rather carefully classified segregation of animals by species or "environment", and choreographed by activity. The zoo in these regards is unnatural. It is easily diagrammable. It is highly manipulated. It is both self conscious, and voyeuristic.

Given the highly choreographed nature of both the dwelling and visiting procedures of the zoo, the means of its *analusis* are hardly negotiable. One begins the journey, by selecting a destination from a prepared list. Animal behavior is outlined on placards, and explanations are passed from text, to teachers, to tour groups. Like the contents of a pre-portioned TV dinner, the inhabitants of each cell match the picture on their packaging.

Negotiating a path through the woods, on the other hand, is a very different experience. The woods are unpredictable.



Their unmanipulated fabric demands attentiveness. They lack a protectively lined circulatory system and a pre-digested catalogue of directional and behavioral information. In the wilderness, the negotiation of orientation is constant. One is as likely to watch as to be watched. When lost, the act of moving, like the act of severing of the fruit, becomes potentially irreversible - yet obligatory for orientation and discovery.

Even with a map in hand, it is possible to become quite disoriented in the woods. For without reference of the cardinal points, or recognizable landmarks in the site, such a tool is without value.

Once disoriented, preconceptions are mistrusted, and subsequently replaced by a battalion of contingencies: all negotiated reflections of one's own capabilities within whatever conditions the environment might yield. Much like the journey within the Chinese apple, stepwise negotiation is the only available means of progress.

Surroundings which require such engagement are relatively scarce in the realm of architect-designed environments, although, ironically, the act of *analusis* maintains a steadfast grip on the architect's process. For while architects do not deprive themselves of analytic indulgence, the clarity of the environments formulated is often prone to dictate, rather than invite, interpretation.

One of several potent exceptions may be found in Le Corbusier's Chapel at Ronchamps, of which I shall here explore only a detail: a single stained glass window within the South wall.

Typically, the stained glass windows of Roman Catholic churches depict episodic biblical scripts, portraying scenes from the miracles, parables and passion. They are two dimensional. They deny views of the environment beyond, and changes in daylight or weather affect only the intensity of the unyielding images.

The windows of Ronchamps (fig. 5), by contrast, defy static description. The views from these apertures are both mutable and unpredictable. The glazed plane of each window, which is placed deep within the wall, is divided into rectilinear segments, only some of which are stained. The remainder of the segments which make up the abstract compositions are nearly transparent, allowing distilled glimpses of the distant hills and horizon to enter the compositions. On the surface of some of the panes, icons of natural, mathematical, and religious orders are fused into compositions with thick black brush strokes.

Unlike prototypical stained glass windows, the physical boundaries of these apparently planar compositions are in constant flux, as the light both within and outside of the chapel acts to obscure and include elements of the fore- and backgrounds. Likewise, the physical content of each composition varies with the viewing distance, and angle: standing, or kneeling, perpendicular, or oblique.

While the boundaries and content of

from Lazararus by a comfortable distance.

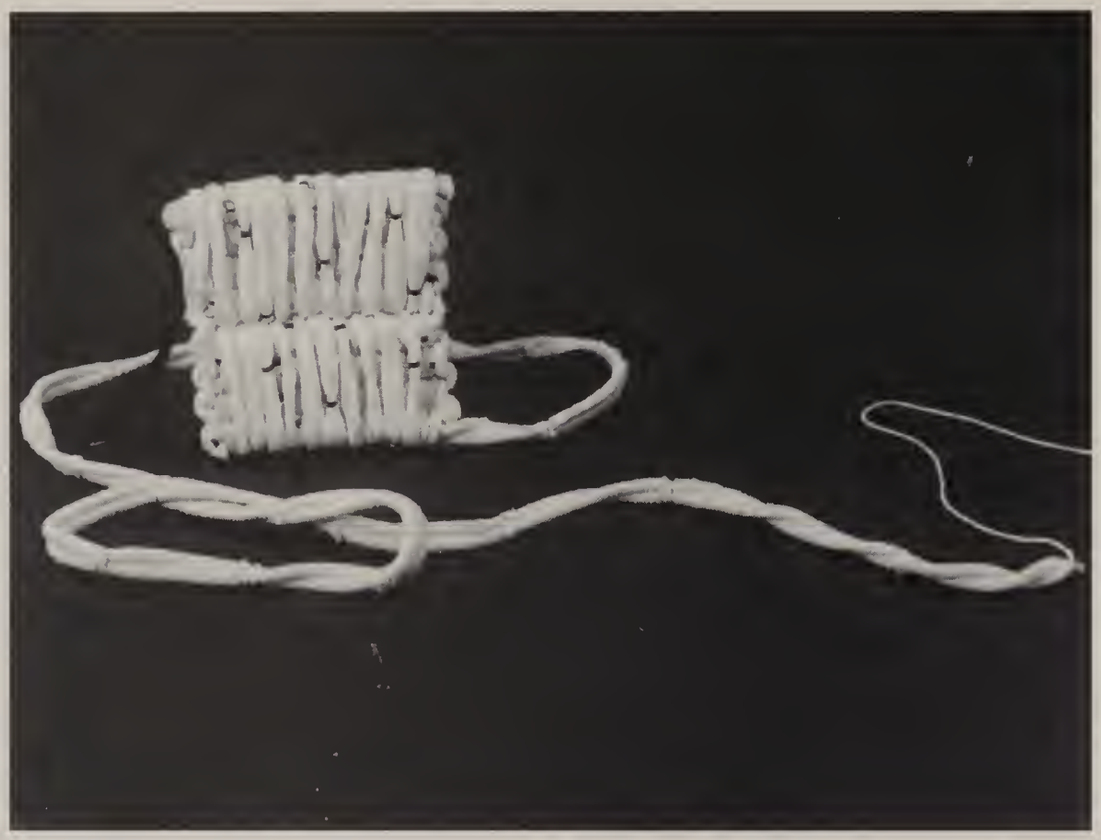
the views through the windows elude definition, the windows also resonate incongruously with views that include them, most notably undermining presumptions of scale. For while the exterior of the wall, pierced by the narrowed end of these tapered openings, suggests a fortress of looming proportions, within, it shrouds a tiny chapel. Apertures which are forebodingly compressed and exclusionary on the exterior, on the interior, invite occupation. Experienced from without, and within, the scale of the wall is uneasily reconcilable, as its mediatory role between the human, the landscape, and the heavens, is conditional.

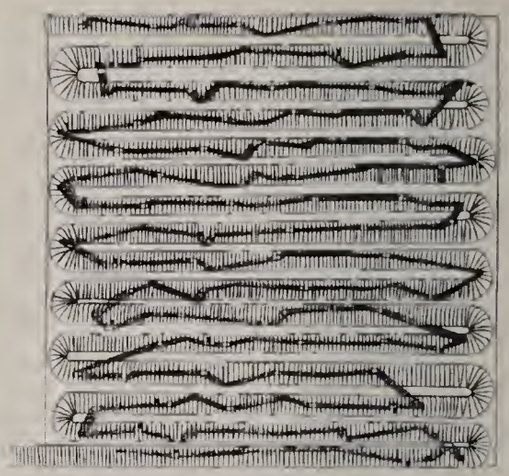
Enriching this interdependence, is Le Corbusier's use of rectilinear geometry, a palette which he has reserved for a few, prototypically ornate, elements of the chapel, including the stained glass windows. In his "Poem of the Right Angle", Le Corbusier speaks of the crossing of the horizon and the gravitational plumb line as the "sum of the forces which keep the world in equilibrium." Unseverable by purely mathematical (the right angle which provided the basis for and the crucial flaw in the original geometric formulation of the Modulor by which all rectilinear elements are dimensioned), natural (the forces of the horizon and the plumb), or the Catholic (the icon of the cross) definition, this icon, reverberates throughout the chapel's details.

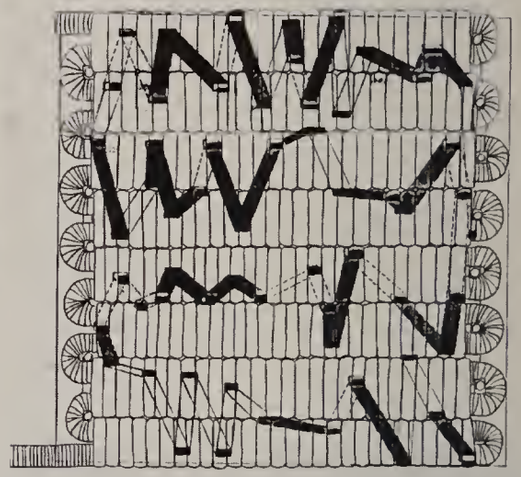
In requiring such negotiation, Ronchamps both invites and resists analusis. The resilient structure cannot be cut, bounded, or experienced with unconditional conclusion. Familiar references of scale, number, icon, and script have been fundamentally fused. They are present, but not packaged, manifest, but not mapped. Since its inception, it has, and will continue to, tolerate new acts of analysis.

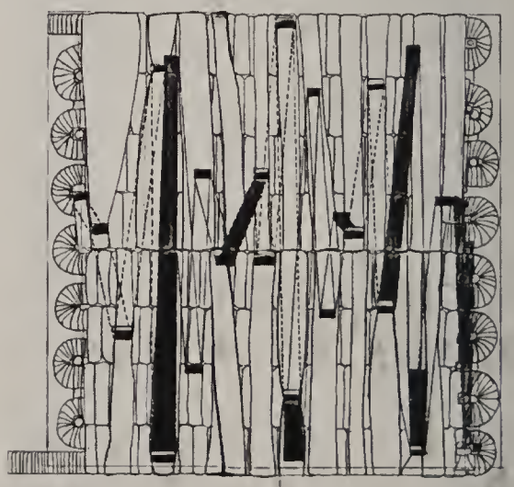
Likewise, the parable of Lazarus and the rich man resonates within its own resilient structure. Here, the story is described as the impaired interactions of two characters, a wealthy man, and a beggar. Withdrawing my own knife, however, this cut is mended; Lazarus and the rich man are rejoined as one. Again, the parable, awaits *analusis*.

5. Ronchamps









Cristina Collas, *student project*

Segment I Studio:

Hailim Suh, instructor

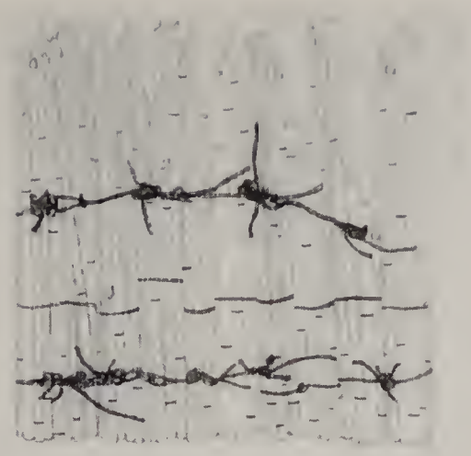
Investigation No 4: Wall Project

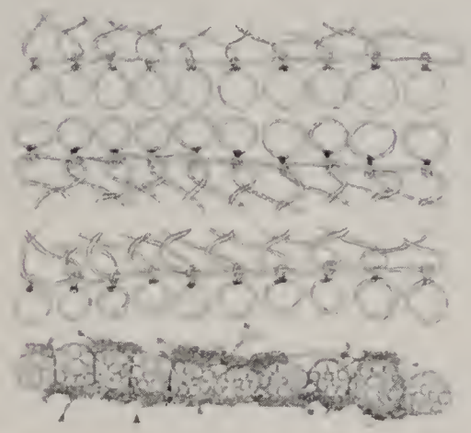
Description

1. Find and gather linear materials of varying dimensions.
2. Construct an "upright structure," entire size not exceeding 10"x10"x1", from collected linear elements and joining materials.
   Note: joining as to bind, tie, brace, rope, strap, chain, band, wrap, bundle, bandage.
   Roget's Thesaurus
3. Record and map the process of your assemblage through drawings.
   Note: express and describe the materiality of the structure employing the techniques of "rendering."
4. Enclose your structure within 10"x10"x1" using opaque filling materials.

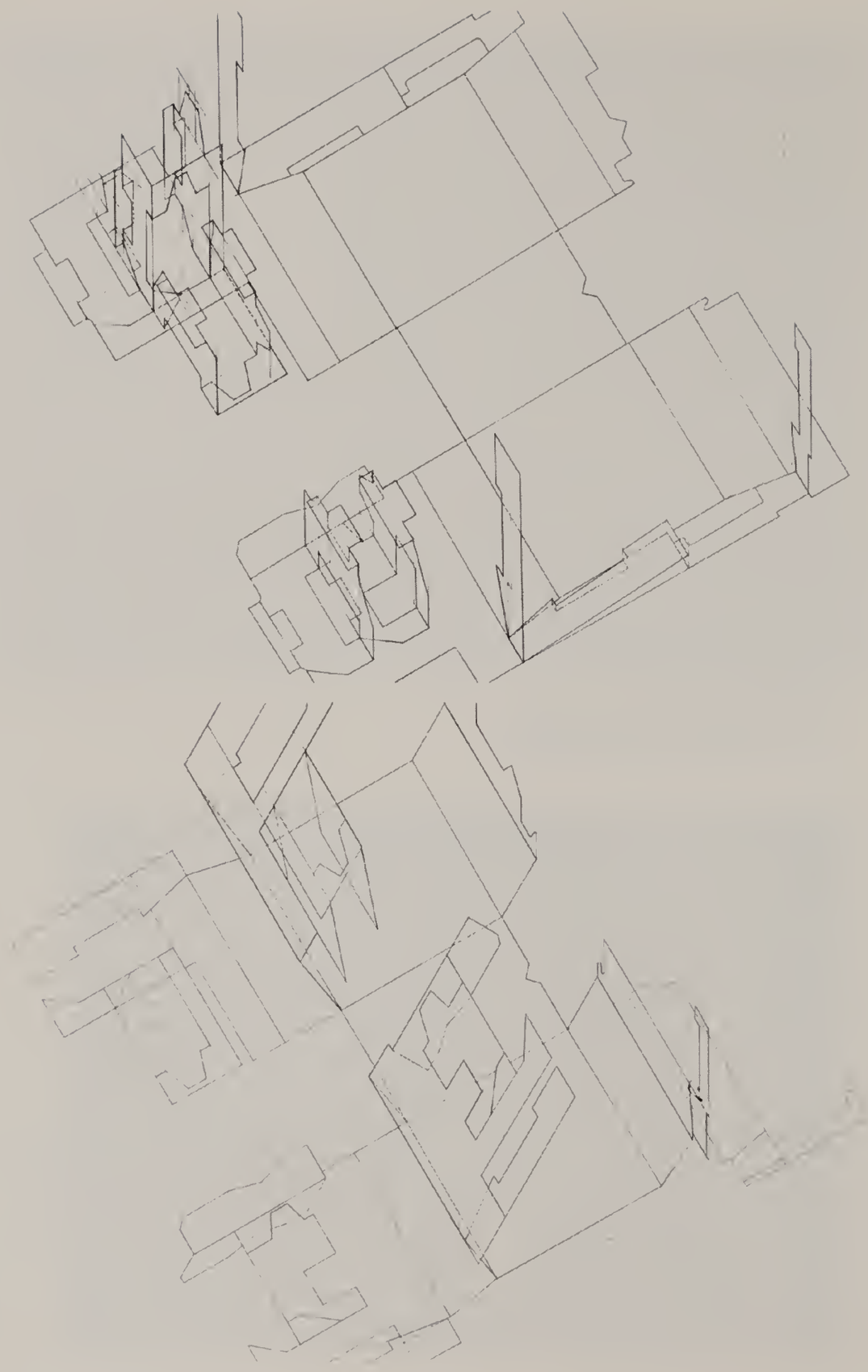
Issues

1. Employ ordering principles to support the conceptual strategy of your assemblage.
2. Examine the relationship between invisible structure and visible surfaces.





Paul McCormick, *student project*



Barbara Burguetes, *student project*

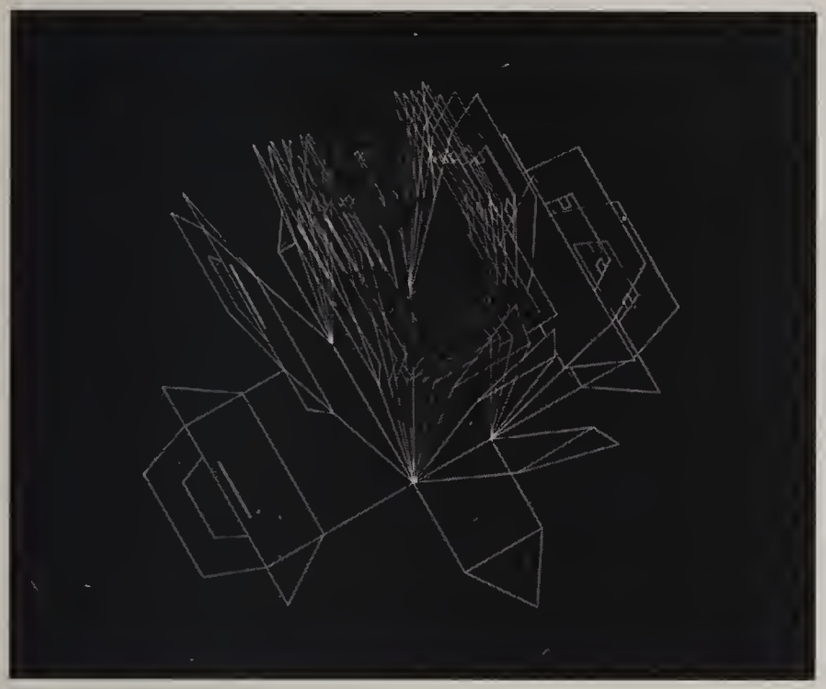
Investigation No 2: Analysis of Folded Container

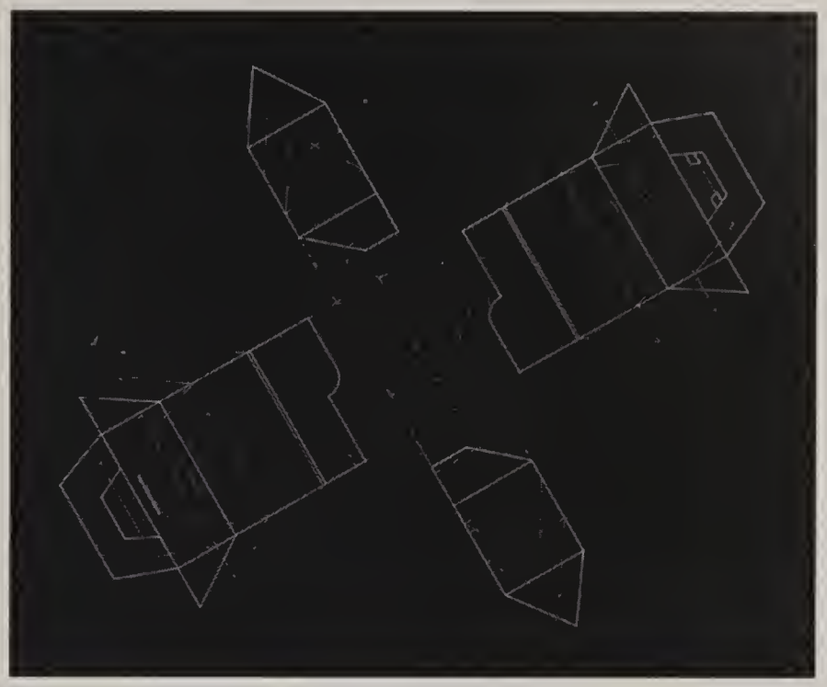
Description

1. Select a folded container which you can cut open and study (i.e. milk carton, egg crate, etc.).
2. Open the container according to its folded design.
3. Measure and draw the flattened container in its various transformational states.

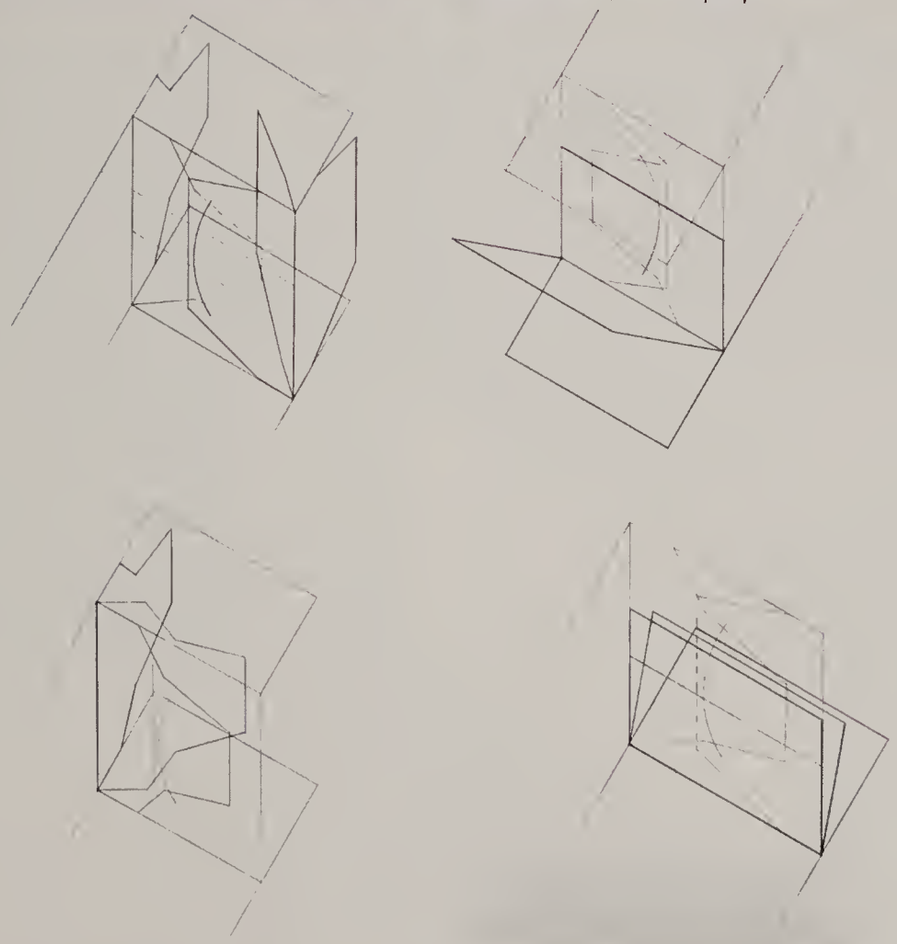
Issues

1. Examine the structural strategies and details of a packaging object (study of lines of stress).
2. Study the object's transformational identity on route to its collapse.
3. Consider the compression and expansion of time.





Cristina Collas, *student project*



Veronica Brandstrader, *student project*

Professional Work:
Brad Johnson

The Massachusetts Bay Transportation Authority's choice to renovate and expand its Operations Control Center in downtown Boston raised significant urban and infrastructural questions, as well as complex technical issues. The process of resolving these exigencies required strategies for detailing drawn from a rigorous conceptual framework.

The building is zoned vertically, with program elements each occupying an entire floor. Within the building are a traction power substation for a portion of the Red Line subway; a public lobby; computer and fiber optic links to trains; employee facilities; executive offices; and a two-story control center from which all subway and commuter rail activity is monitored and controlled.

The stone exterior, designed to create urban continuity between the Control Center and its neighbors, presents a variegated façade that reflects the building's diverse program components. Overlaid on the taut stone envelope are large scale steel elements, both functional and rhetorical, that reference the many nearby bridges and industrial buildings from the 19th century industrial period.

When I came on the team at the end of the schematic design phase, the basic configuration of the granite facade and

metal projections had been established. My job was to detail the exterior aesthetically and technically. The first task involved establishing a regular stone grid that quietly accommodated, through subtle variation, the building's many existing structural irregularities and program-driven fenestration requirements. The curtain wall uses a steel support system for the granite, backed by a waterproofed sheathing system. This arrangement allowed the ironworking trades to proceed up the building, attaching galvanized steel support tubes to the building frame, followed closely by the drywall trade attaching studs and sheathing as infill between the tubes, followed by the waterproofing trade applying self-adhesive waterproof membrane. The stone and ironworking trades then set the stone panels in place.

In developing the system of steel ornament, consideration was given to the size of local galvanizing tanks, material deformation during galvanizing, the sizes of flatbed trucks and standard highway overpasses, sequence of construction, waterproofing issues, shop welding versus field bolting, and ease of erection. We developed a buildable, durable kit of parts that minimized field work to speed erection and insure the integrity of corrosion-resistant coatings. Among the difficulties encountered in developing the steel detailing were the orchestration of several possible construction sequences of stone and steel within the same kit of parts and maintaining waterproof integrity of the waterproof double layer skin at the points of steel penetration, and designing connections with tolerances and adjustability, to minimize field modifications to this complex, tight fitting system.

ANTHONY FRAUSTO-ROBLEDO

Heuristics of the Figure-Ground

During the early years of an architectural education the process of diagramming is introduced as a design tool, a process which was and is intriguing for both its graphic utility and its scientific potential for transmitting history. In 1902, Julien Guadet's attitude concerning the comprehension of precedent could be seen as entirely scientific.[1] Yet atheoretical postures towards the figure-ground diagram persist, assigning it little more scientific potential than the "sketch" and not acknowledging the immanent potential of the figure-ground analysis and the diagramming process.

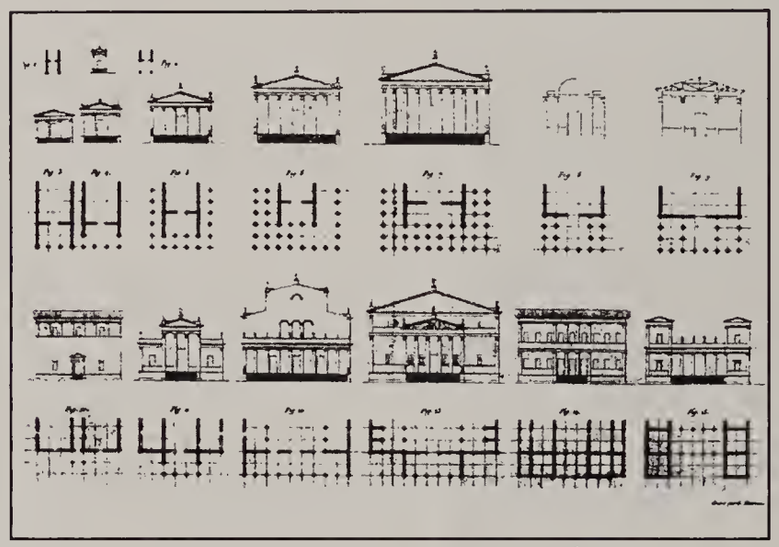


figure 1

The merging of typological diagramming methods begun by J. N. L. Durand in the 18th century[2] (figure 1) with the figure-ground drawing as a unified graphic method can generate a legible knowledge and previously unrecognized field of formative ideas. It is assumed that a diagramming analysis of this sort can bring forth an understanding of the "history of architecture" that transcends the simple notion of it as just the process of categorical memorization.[3] The value of history to practice when seen as only "the amassing of a pure knowledge of the past without opening perspectives on the future"[4] is relatively insignificant; formative ideas—the conceptual material from which we create our new architecture—are comprehended and regenerated within a cognizance of the continuum of architecture. Although formative ideas can come to

"The architect today (...) should be a most manifold man: a man of science (...) in all manner including construction and its applications, a man of science in the profound knowledge of the whole heritage of architecture."

Julien Guadet

Éléments et théories de l'architecture, 1902

architecture from many diverse sources, the methods initiated by Durand were an attempt to allow the discipline of architecture to self-generate its own life blood, by setting into motion a rigorous self-analysis of its own existence and perpetuation.[5]

A manifold study entailing typology, the history of the figure-ground, the aspirations of architects to scientifically treat the study of architecture, and the application of a diagramming exercise sets the developed technique within its historical context as a pedagogy and describes its process. By analyzing two-dimensional spatial compositions within the parameters of the figure-ground and, simultaneously, attempting to establish a "diagramming exercise" applicable to an analysis problem, two types of formative ideas are revealed: *emergent figures* and *embedded archetypes*.

figure 2

The Exercise: Its Historical Context

The theory of the urban figure-ground begins with the novelty of Giambattista Nolli's Plan of Rome, completed in 1748.[6] The Nolli Plan introduced the graphic conventions which allow us to view the city with an understanding of the hierarchy of public and private space.[7] As in the original 3rd century *Forma Urbis*,[8] the important public buildings—temples, theaters and churches—were drawn with precise plans of their interior major spaces, making a distinction between "monument" and "fabric." In addition, Nolli shades in the blocks—an urban poché—thereby producing a legible field of figures and grounds.[9] Within these graphic conventions potential extensions or completion's of emergent figures in the figure-ground can be recognized.[10]

The value of understanding the polarization of solid/figure and void/ground is attained by abstractly reading the enclosive gesture of the surrounding buildings. Like urban spaces—such as the Piazza Navona (figure 2)—significant rooms in an individual building rely on the power of their enclosive wall surfaces for their comprehensibility.[11] By rendering the private domain as poché, it is easier to distinguish and assess the legibility of the public spaces. A further reading of these diagrams yields the possibility of hypothesizing about the conceptual structure of patterns found to exist within the precedents of different building types. The value in these patterns is they engender a multitude of related possibilities in new configurations for problems in architecture.[12]

A study of patterns in architecture—one related to the figure-ground drawing or the abstract diagram—involves the theoretical efforts of the French Rationalist architects, particularly the diagramming charts created by J. N. L. Durand. Durand constructed graphic tables of simple or

1 Reyner Banham, *Theory and Design in the First Machine Age* (Cambridge, Mass.: MIT Press, 1960), 14-18. In regard to the use of the word scientific, Banham refers to Guadet's understanding of it as science "in the generalized sense in which Leonardo da Vinci understood science, as erudition plus logical method."

2 See J.N.L. Durand, *Partie graphique des cours d'architecture faits à l'ecole royale polytechnique depuis sa reorganisation, précédée d'un sommaire des leçons relatives à ce nouveau travail* (Paris: J.N.L. Durand, 1821). Also idem, *Précis des leçons d'architecture données à l'école polytechnique, Vol. 1* (Paris: Chez Bernard and J.N.L. Durand, 1802).

3 Roger H. Clark and Michael Pause, *Precedents in Architecture*, (New York: Van Nostrand Reinhold, 1985), introduction.

4 Aldo Rossi, *The Architecture of the City* (Cambridge, Mass.: The MIT Press, 1982), 169.

5 Werner Oechslin, "Premises for a Resumption of the Discussion of Typology," *Assemblage 1*, (Cambridge, Mass.: The MIT Press, 1986), 45-50. Most importantly, I refer to the second paragraph on page 50.

6 Giambattista Nolli, *The Pianta Grande Di Roma* (Rome, 1748; repub. The Princeton University Press) Introductory essay by Allan Ceen.

7 Michael Graves, "Roman Interventions", *Architectural Design: Roma Interotta*, Vol. 49, No. 3-4. (London: Architectural Design and Acroshaw Ltd., 1979), pg. 4

8 See note 7. The *Forma Urbis* was a 3rd century BC incised map cut out of stone (as in a low relief). The *Forma Urbis* marks the beginning of the history of important ichnographic, i.e., plan-map as opposed to view-map, images of the city. Nolli's debt to this map lies in the distinction it makes between monumental

buildings, delineated with double lines, ond fobric, delineated with o single line. Thus the heirachy of "monument" ond "fobric".

9 Ibid.

10 This is, more or less, the definitive explonation of Woyne Copper's thesis in developing his argument for the opplication of the figure-ground drowing method in urbon design ond analysis. Woyne W. Copper, "The Figure/Grounds," *The Cornell Journol of Architecture, No 2* (New York: Rizzoli, 1982),42.

11 Groves, 4. The referenced possoge stotes thot urbon spoces like the Piozzo Novono derive their "urbon" [quotes odded] comprehensibility from their enclosive surfoces. As Steven Peterson hos noted, the oxiom implicit in the obove stotement must extend logicolly through the entire spatiol sequence, "from public gorden into locol street, through neighborhood squore, into semi-private court, up the stoir ond into private rooms" (Steven Peterson, "Urban Design Toctics", *Architecturol Design: Romo Interotto,* Vol. 49, No. 3-4. (London: Architecturol Design ond Acroshow Ltd., 1979),76-81).

12 Scientific merits notwithstonding, the figure-ground diogromming method—like onolytic ond onolysis work in generol—must provide proctical support for the design of new works of orchitecture: theory must support proctice ond not solely exist os on oside.

13 Oechslin, 46.

14 Ibid, 51.

15 Bonham, 15. The referenced passage stotes, "So truly did the trodition run through him, thot his own insistence on composition, the ossembly of o building from its component volumes, is only on echo of J.N.L. Durond...."

16 Anthony Vidler, "The Ideo of Type: The

pure "geometrical figures and their architectural correlates" and put them together in the form of developed types.[13] As Werner Oechslin points out, Durand's goal was not to create an exclusively abstract systematic-geometrical approach, nor was he interested in "reducing history to a systematics;" instead, he was introducing a "theory of figures" in order to invest typology with a sense of import.[14] Later at the turn of the twentieth century, Guadet would continue the academic chain begun by Durand in his *Elements et Theories.*[15]

The basic process Durand employed in his teaching at the Ecole Polytechnique consisted of dividing and sub-dividing architecture into its "fundamental constructive elements, each reduced to its essential geometrical form, and the combinatory system for these elements ...."[16] Building upon a "comparative taxonomy" of forms, this method further developed "rules" for the combinations.[17] Although the very act of organizing diagrams in a graphic table was a transfer of ideas and methods developed in the natural sciences, and not truly a scientific process created by architects, it aspired to treat the subject of the history of architecture scientifically. From here a scientism emerged in the theory of architecture that began to merge practice and history in a unified process.

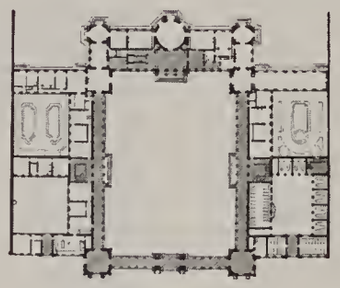


figure 3

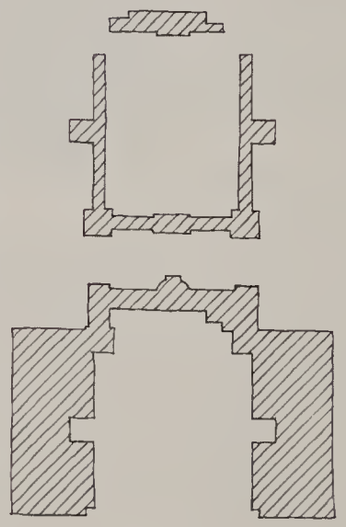


figure 4

The Exercise: Its Process

The process of the "exercise" undertaken in my analysis and research departs from a simple idea illustrated in a diagram by Guadet (figure 3). Guadet has cross-hatched the circulation space to emphasize its configuration relative to the general figure of the building. A secondary reading of the same information can be obtained if the circulation space and the figure of the building are drawn separately (figure 4). This process concentrated over a series of subjects (elements of architecture and elements of composition) yields a series of related diagrams from which readings can take place.[18]

Emergent figures and embedded archetypes are reciprocal discoveries in the analysis of Palladio and Lutyens, ideas which were revealed through research and the application of a diagramming process. The concept of emergent figures derives from Copper's thesis but concentrates on isolating archetypal patterns in plan. The idea of embedded archetypes is not new; it here refers to the use of both primal and generic typological patterns in plan.[19] The importance the figure-ground can play in the study of typology is crucial. As a tool it can abstractly clarify the relation between a design and a more general design. Thus, through polarization the figure-ground diagram can make more lucid the differences between any given design and a more general design by concentrating on singular typological characteristics. We can define this general design as *typological form.*[20]

Transformation of the Academic Ideal, 1750-1830," *Oppositions 8*, (Cambridge, Massachusetts: MIT Press, 1977), 107.

17 Ibid, 107.

18 Banham, 20. Here Banham quotes Guadet from his *Elements et Theories* as saying, "To compose is to make use of what is known (ce *qu'on sait*). Composition has materials, just as construction has, and these materials are, precisely, the Elements of Architecture." For Guadet, the elements of composition were the rooms, vestibules, exits and staircases.

19 Primal and generic typology should not, however, be regarded as the same. Primal typology (or archetypal typology in this paper) refers to first types within a particular typological genera. The first forms of the medieval manor—which simply consisted of the hall and screened passage—are a case in point. Generic typology refers to generalized conditions and elements. Lutyens' houses can therefore be disscussed in relation to the general typoplogy of the English country house in his era.

20 Rossi, 171.

21 Peter Inskip, "Lutyen's Houses" (introductory essay), David Dunster, ed., *Edwin Lutyens: Architectural Monographs 7* (London: Academy Editions, 1986). Based on Inskip's essay, an argument can proceed along these lines. Lutyens began his career by studying the venacular architecture around his home with Gertrude Jekyll; his own practice was strongly influenced by imitating and "bandwagoning" with his contemporaries. Further, his plans were strongly responsive to the particular program of the country life; as a requisite of this program, private rooms in *enfilade* and the use of the corridor were already set in common practice (see Robin Evans, "Figures, Doors and Passages," *Architectural Design*, April

Palladio and Lutyens both employed an archetypal pattern in their work, but used patterns very differently. Palladio was conscious of his use of classical typology, whereas Lutyens was somewhat less conscious of his activity as constituting a typological innovation.[21] Palladio "engaged in a heretical mixing of parochial and public elements," including the use of the centrally planned temple; his process was transformational.[22] Lutyens engaged in a preservation of the medieval manor archetype in his plans; his process was both additive and preservative. Both of these ideas can be clarified in the figure-ground diagram.

Palladio

The Veneto farm villa was essentially a simple structure with a portico or loggia running along a part, "if not the whole, of one facade of the main building."[23] The location of the portico/loggia was usually on the main facade. (figure 5) Although its central purpose was storage (both permanent and transient) and protection, it also functioned as access to the house itself.[24]

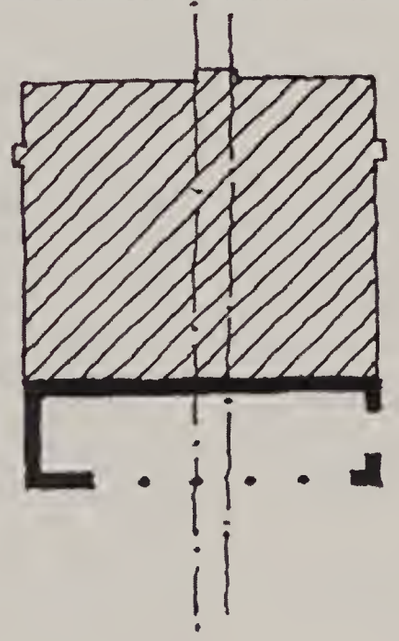


figure 5

Martin Kubelik has claimed that Palladio's central innovation in his villas was the use of classical elements on the main porticus and the manner in which he logically assembled the farm buildings into one cohesive complex. Palladio's villas are thus seen as perpetuating the "homogeneous growth of the villa type on the Venetian Terra Firma ...."[25] Yet his use of classical typology cannot be overlooked in its novelty or impact. A principle effort of Palladio's was to put the most important and largest room in the center of his plan composition, as in a Roman bath or centrally planned temple.[26] Due to its utilitarian nature the typical vernacular Veneto farm villa did not always adhere to this sort of planning. This condition allowed Palladio to set up the structure of vistas along an axis.[27] Palladio's use of the generic pattern of the Roman bath type establishes in his work the increasing use of vistas through a series of rooms *en filade*. This plan structure became a trademark of his work and of Palladianism in general.

In the Villa Gazzotti the pediment is introduced for the first time on a Palladian villa. However, what is unique here is the combination of temple front with loggia, the loggia being a common element of the typology of the Veneto farm villa. In this case, the temple front portico, which is a temple in antis, becomes the loggia as the temple form is inserted into the block of the typical villa. (figure 6) What in effect happens is the inherent villa loggia has been ennobled through the use of the pediment, and the principal space (salon) has now taken an official centering within the plan composition. It is as if a temple form has been wedged into the Veneto villa, with its essential formal characteristics expressed. In the two dimensional figure-ground diagram this expression is only latent. (figure 6) As a by-product of this fusion of the temple type with the

(London: Architectural Design and Acroshaw Ltd., 1978), 271-272. All of these facts strongly suggest that Lutyen's unique plan moves were not thought of at a typological level but were a response to client programs and, to some degree, subsumed in the praxis of the English architect.

22 Rossi, 171.

23 Martin Kubelik, "Palladio's Villas in the Tradition of the Veneto Farm," *Assemblage 1* (Cambridge, Mass.: MIT Press, 1986), 94

24 Ibid, 95.

25 Ibid, 100

26 James S. Ackerman, *Palladio's Villas* (New York: New York University, Institute of Fine Arts, 1967), 12.

27 Ackerman, 12-13. The referenced passage states: "Yet, while Palladio inevitably saw and recorded the baths in terms of his own preoccupation with villa design, they were an essential stimulus to the formation of his villa style, not only in their symmetry about one axis only (the section into depth is asymmetrical, like a human and animal body), but in the concept of vistas along the axes.

28 Kubelik, 95.

29 The observation was brought to my attention in a studio lecture by Erik Thorkildsen. April 4, 1991.

30 Hideaki Haraguchi, *A Comparative Analysis of 20th Century Houses* (New York: Rizzoli, 1988). See the entire chapter on Lutyens.

31 Robin Evans, "Figures, Doors and Passages," *Architectural Design*, April (London: Architectural Design and Acroshaw Ltd., 1978), 271-272.

32 Ibid. 270. It could be argued that the corridor was not primary because of its relation to the functions of the servants

generic villa type, a centralized space and axiality—characteristics of the temple—emerge as pro generative and structuring constructs for Palladio. Symmetry and a central axis were usually not the main determinates of the main facade or plan in fifteenth century villas and yet become ever more determinate throughout Palladio's villa designs.[28] In the Villa Cornaro, the temple type has become further pronounced as a true temple portico is applied to the front of the villa. Palladio continues to develop this concept until the pediment gets demoted from primary antique form to secondary antique form as the dome becomes the tour de force of his formalism in the Villa Rotunda.

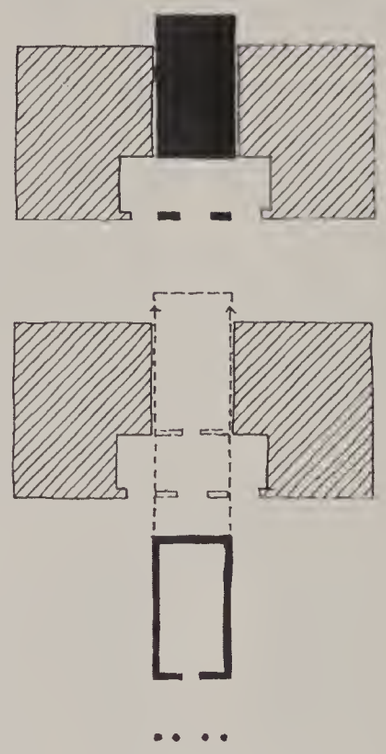


figure 6

Placing the principal room at the center of the plan composition enabled the creation of a series of vistas to emerge in Palladio's villas. If the Villa Corner dall'Aglio can be taken to represent a typical pre-Palladian villa then a clarification can be made between the emerging formation Palladio was beginning to set up in villa design and where it already existed on the Veneto farm. Contrasted with the abaxial arrangement of principal rooms in the Villa Corner dall'Aglio, the Villa Gazzotti salon is on axis with both the portico and the center of the plan composition. (figure 7) At the Villa Cornaro the principal space moves ever closer to being on axis in two directions and truly centered in the plan composition, as if its centroid occupied the centroid of the entire plan composition. (figure 8) A truly centered salon will not occur until the Villa La Rotunda, where the site implies or suggests such reasoning.

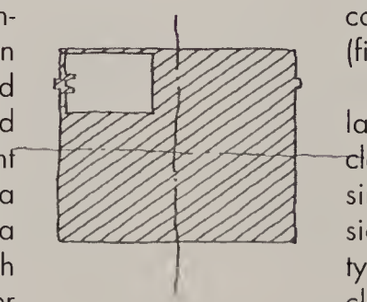


figure 7

Although this is the eventual outcome at the Villa La Rotunda, it is important at the Villa Cornaro that its salon is related to the loggia and hence the garden beyond. In this villa there is a transference of elements from one facade to the other and this fact is further reinforced by the emergence of columns in the principal space.[29] Within the principal space these four columns, which align directly with the columnar porticos, support a double strata of ceiling beams. The beams on the lower strata are more pronounced and move in a direction parallel to the entry/path sequence to the terminal space (this being the loggia) and thus reinforce the vista construct. Compared to the Villa Gazzotti, Palladio here has created a complete three step sequence. (figure 9)

In summary, these two Palladian villas illustrate and clarify both the differences and similarities between the classical types and Italian villa types in Palladio's work. The classical archetype is used to lend nobility to a building type that had only recently been occupied by a Venetian (urban) aristocracy. As the diagram indicates, his process was more

and that it was outside of and independent from the archetype itself; however, primacy is accorded to the corridor as a circulation system for the following two reasons: one, prior to the corridor the measure of convenience for a building's circulation system could be indexed by the number of doors in each room, with a door preferred in any location which would lead to an other room—making the edifice "a matrix of discrete but thoroughly interconnected chambers." Therefore, because the corridor itself (as a system of passages) lead to more discrete locations than any other room it was the greatest room of convenience; and two, the primacy of the corridor really exist in the fact that it brought on a spatial and compositional advancement in the house—offering, if you will, vertebrae or spine to which discrete chambers could attach.

33 The question of what really is an emergent figure and how does one isolate it is of crucial importance here and deserves attention. Ideas that are "formative" exist in the black & white fabric of the diagrams themselves. The diagram's heuristic potential lies in the fact that the viewer is asked to let the diagram guide the imagination, soliciting a graphic response in the viewer when run through the analogical reserves of the architect's cognition. Thus, important figures begin to emerge into the "mind of the viewer" thereby allowing these ideas and notions to be isolated graphically with the same technique from which they emerged.

34 Rob Krier, *On Architecture* (London: Academy Editions, 1982) The author refers to the various sketches for the residential accommodation on Schinkelplatz, on pages 62 and 63, and other similar drawings.

35 Steven Hurtt, "Conjectures on Urban Form: The Cornell Urban Design Studio 1963-1982," *The Cornell Journal of Architecture, No 2* (New York: Rizzoli, 1982), 56.

transformational because he did not really add any new elements to the Veneto villa but simply changed their form. The transformation of the utilitarian loggia to a temple portico is a case in point. Although the use of antique classical elements on the main porticus could be lauded for its appropriate response to the new landed nobility, the existence of the utilitarian based loggia should not be overlooked as a precursor of the magnificent and scenic loggias that eventually found their way on the Villa La Rotunda. Yet this discrimination aside, perhaps the real contribution made by Palladio lies in his insertion of the concept of vistas through rooms *enfilade* and out into the landscape. As a trademark of Palladianism, this concept has characterized continental villas in general.

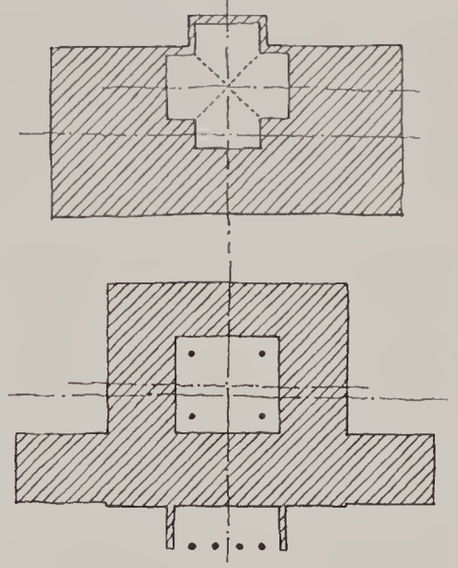


figure 8

Lutyens

The most basic medieval manor consisted of a hall entered from a door at the corner. This single cell of space can be seen to be a peasant's dwelling, embodying all of the rituals and functions normally disseminated over many rooms. As the medieval house evolved so did the rituals, whereby different rooms were assigned different functions. The second room in the medieval manor is the passage, created by the device of a screening wall. Subsequent stages in the development of the medieval manor would include a separate kitchen zone with pantry and buttery and a bay window area at one end of the hall, off-axis.[30] The kitchen zone developed off the passage, opposite the hall, making the passage become the literal center of the plan. Flanking each side of the passage were distinctly different zones: one private, the other public. (figure 10)

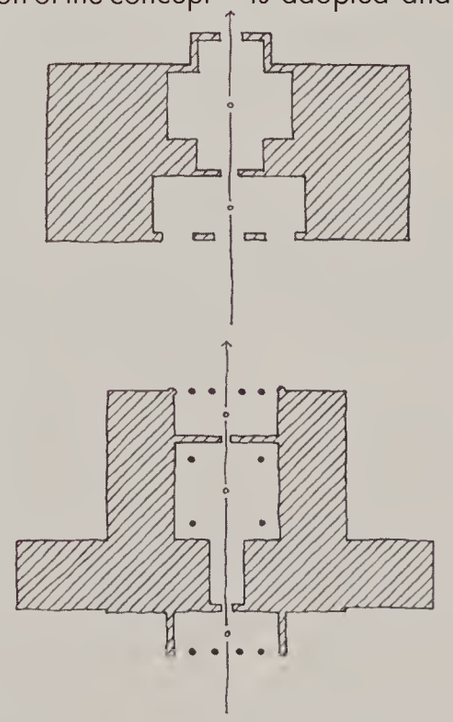


figure 9

In the country house work of Lutyens the zoning scheme of the medieval manor is adopted and extended as the zoning scheme for the entire ground floor. The private zone, consisting of kitchen and servant or work space, is developed off the passage side. The public zone develops off the hall side and becomes such spaces as the drawing room, parlor, billiard room, etcetera.

In addition to the logical extension of the medieval manor's zoning, a transverse division of the plan exists as well. By preserving the archetype and embedding it within the larger house, Lutyens was able to accommodate the need to consign the servants to the corridor while allowing the

List of Figures

1 J.N.L. Durand Typology chart/matrix.

2 Nolli figure/ground of Piazza Navona.

3 Plan d'un hôtel du XVIIIe siècle. Les parties hachurées indiquent les circulations: the parts or portions shaded indicate the circulation.

4 (top) Figure of the circulation space. With this diagram one can see how the figure of circulation can take both an active and passive role in the overall plan—in both asserting itself as a form and passively excepting itself among the body of the building in defining an open space. The dynamic within the circulation itself can then fluctuate in response to the passive and assertive parts. This concept of ambiguous and composite buildings and forms is discussed in the book *Collage City* by Colin Rowe and Fred Koetter (Cambridge, Mass.: MIT Press, 1978), 168. (bot.) Figure of the non circulation space, isolated.

5 Diagram of the Villa Corner dall'Aglio concentrated on the dichotomy of the off-axis condition of the loggia in relation to the building.

6 (top) Temple archetype in black shown against the general figure of the building. (bot.) The idea of cross-breeding types: Here a common villa is transformed by the selective insertion of a temple typology.

7 Diagram of the Villa Corner dall'Aglio concentrated on the principal space (the salon) and its compositional relation to the axis' defining a center or centroid within the plan.

8 Diagrams of the Villa Gazzotti and Villa Cornaro, concentrated on the principal space (the salon) and its compositional relation to the axis' defining a center or centroid. (top) Villa Gazzotti (bot.) Villa Cornaro.

9 (top) Diagram of the Villa Gazzotti

hall and passage to exist *en filade*—the preferred arrangement for rooms used by guests and for socializing functions.[31] What resulted was a linear corridor down the transverse axis, parallel to an enfilade of rooms all connected by communicating doors. Within the medieval house proper (the archetype), the privileged family could move freely via intercommunicating doors: from hall to passage to drawing room and back again. (figure 11) This division between the two social groups, and the general requisites for the Englishman in his residential architecture, is clarified in the diagramming process. The primary circulation space, manifest in a transverse corridor, exists outside of the archetype of the medieval manor.[32]

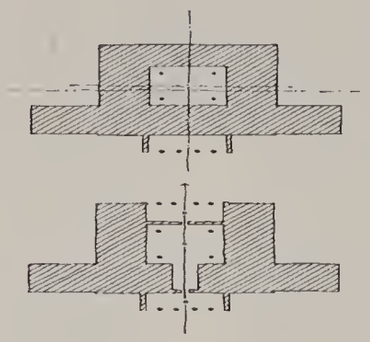


figure 10

The following two houses are representative of the use of an archetypal pattern where the pattern of adjacencies in the archetype not only controls the zoning for the entire ground floor but sets a dilemma for Lutyens, who was under the influence of classicism. What becomes of it is a dynamic tension—dynamic because he does not alter the archetype but instead reconciles it within the dualistic parameters of the two types of facades: classical and picturesque.

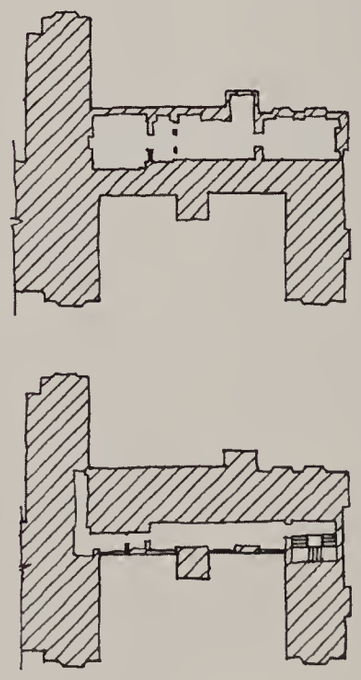


figure 11

Marsh Court is entered via an entry vestibule that can be seen as a closed form nested into the dominantly transparent entry facade. Once inside the house, it becomes necessary to move transversely from the entry axis in order to enter the archetypal passage. This sequence is isolated in diagram but can be seen clearly in the path to principal space or procession diagram. Interestingly, shifting the archetype to one side could have allowed the entry axis and the passage to be co-linear, thereby creating a vista to the garden as in a Palladian villa. (figure 12)

At Little Thakeham the importance of the co-linear issue to Lutyens surfaces. Here the bay window and entry porch both correspond to the principal axis (the entry axis). Along this axis, and to each side, the difference between the entry facade and the garden facade become one of relative porosity. At the garden facade the principal aperture in which to view the landscape is the bay window. The principal apertures to view the court on the entry side are the two sets of openings flanking the entry vestibule.

At Marchcourt the entry facade is symmetrical and rational; the garden facade is asymmetrical and picturesque. The entry facade is responding to a set of notions about procession, entry, formality and classicism; the rear facade is responding to a set of notions about the

concentrated on the two-step axial sequence to the principal space (the salon). (bot.) Diagram of the Villa Cornaro concentrated on the three-step axial sequence to the principal space (the salon).

10 Diagrams of Medieval archetype. The initial zoning of the archetype establishes in the larger composition zoning preferences and directions for growth. The archetype in this sense is seen as a type of genetic determinate in the evolution or growth of the plan.

11 Diagrams of Marshcourt concentrated on the difference between the two types of circulation modes in the house: (top) circulation via en filade of rooms and (bot.) circulation through a corridor and passage system, autonomous from the archetype.

12 Diagrams of Marshcourt and Little Thakeham, concentrated on showing the abaxial arrangement of the archetypal passage in relation to the entry axis. (top) Marshcourt (bot.) Little Thakeham. In both cases there is a preference to enter the principal space from the passage and not directly from a space axial to the entry itself as in a Palladian villa.

13 Diagram of Marshcourt concentrated on the (top) asymmetrical response to the garden landscape beyond versus the (bot.) symmetrical response to the classically planned entry court.

garden, the landscape and the internal structure of the medieval archetype (figure 13). Lutyens was trying to unite diametrical notions. The implication of a classical facade is that the path to principal space is on axis through the entry, as in a Palladian villa. What takes primacy for Lutyens is that the principal space is entered from an abaxial passage, as in a true medieval manor type.

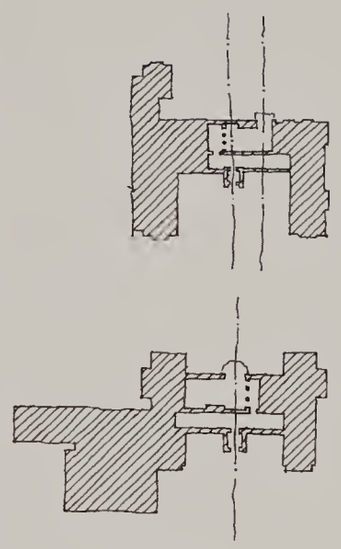


figure 12

Although Lutyens has reconciled the archetype differently in Little Thakeham and Marsh Court, defining the relationship between the archetypal pattern and the larger plan, it is still clearly visible and can be isolated as an emergent figure in the diagramming exercise.[33]

The examples of Palladio and Lutyens represent just a small fraction of the corpus of literature on them, and they are included here for the role they play in illustrating a thesis – this being, that the value of the figure-ground method as a heuristic procedure in the diagramming process is given little credence, often because of one's inability to see it as anything more than a type of sketch. Yet this inability can be corrected when the figure-ground is investigated and exercised within the context begun by J. N. L. Durand. As a didactic tool, the figure-ground requires evolution, advancement and a sophisticated view of its heuristic potential. As a method of diagramming it requires careful future studies of its relationship to the scientific aspirations of Durand and others, like Guadet, who have followed in his stride.

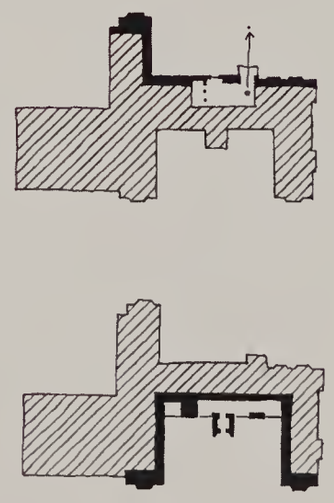


figure 13

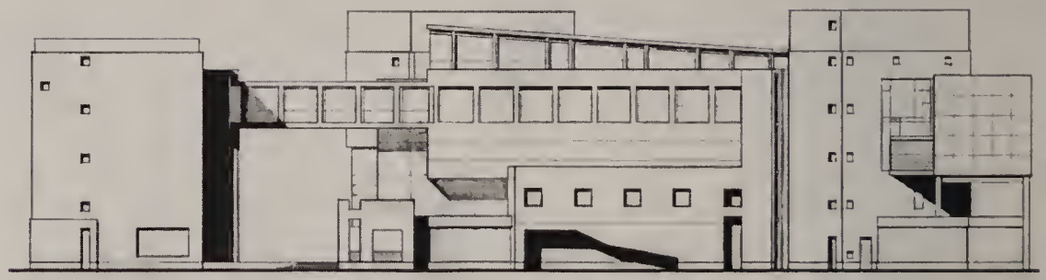
A criticism of the method is that it polarizes issues and fails as a carrier of perceptual information. Also, the ambiguity and open-endedness of the method, requiring completion by the designer, make necessary an adequate library of the history of architecture at immediate mental disposal, so as to make a complete mental survey of possibilities in much the same manner as Rob Krier does on paper in his book, *On Architecture*.[34] But this skill is precisely what Guadet means when he says "a man of science in his profound knowledge of the whole heritage of architecture."

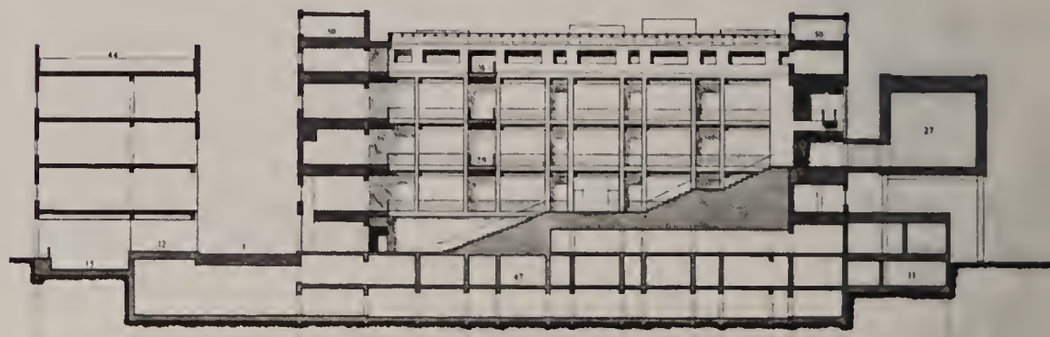
The fertility of any abstract system or framework should always exceed in stimulating and profiting the designer more than it limits him. As such, the figure-ground method is a crucial design shorthand, a mode of transmitting potential analogical information–a sort of "genetic code for future design decisions."[35] It is precisely the level of abstraction that yields the method rigor and freedom: rigor through its consistent and logical usage, freedom through its requisites for completion.

Thesis: **Institute of Noetic Sciences**

CATHERINE BELL

no • et • ic \no -'et -ik\
adj. [GK nous MIND] :
of, or relating to the mind, intelligence
and understanding

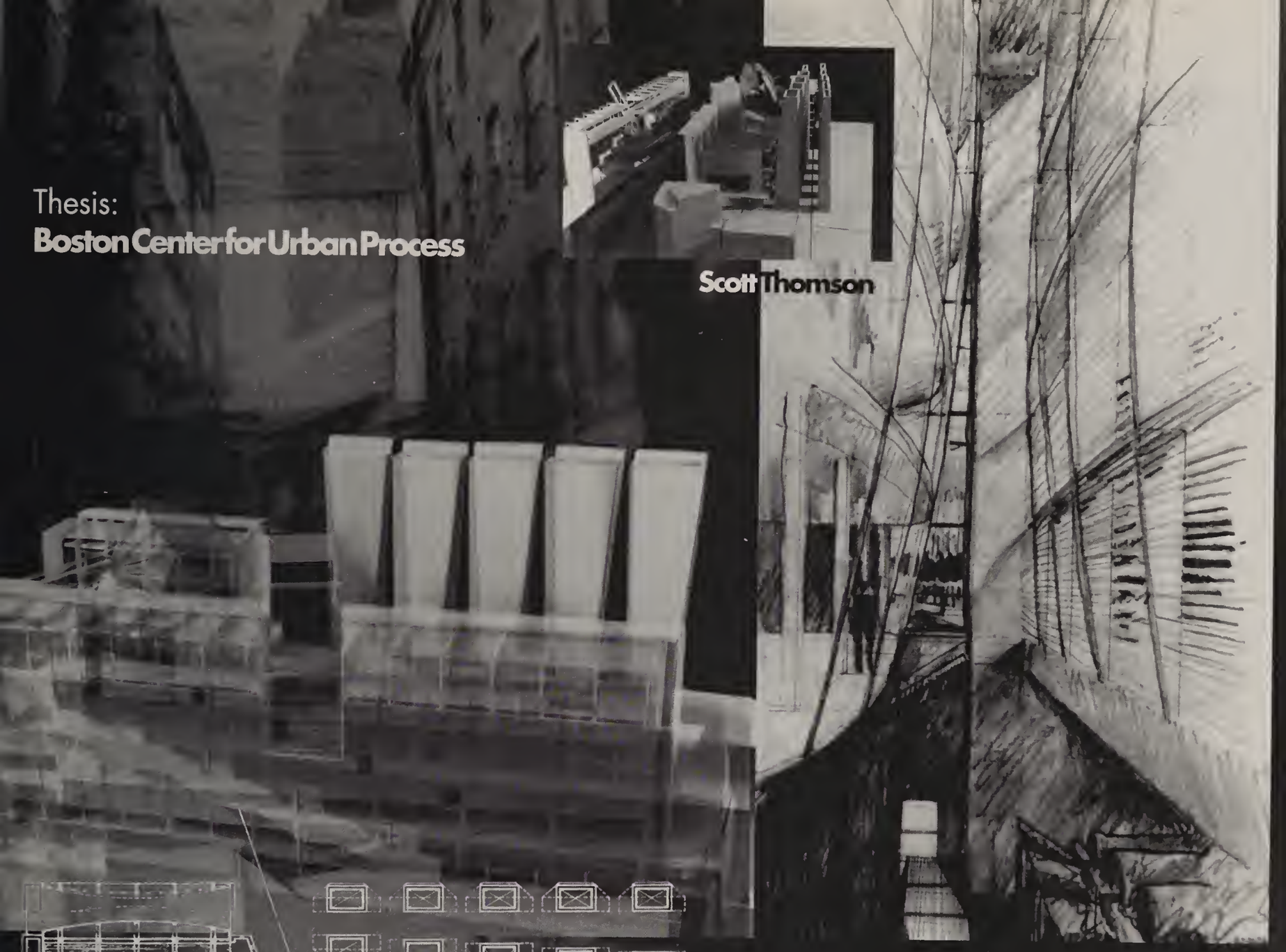


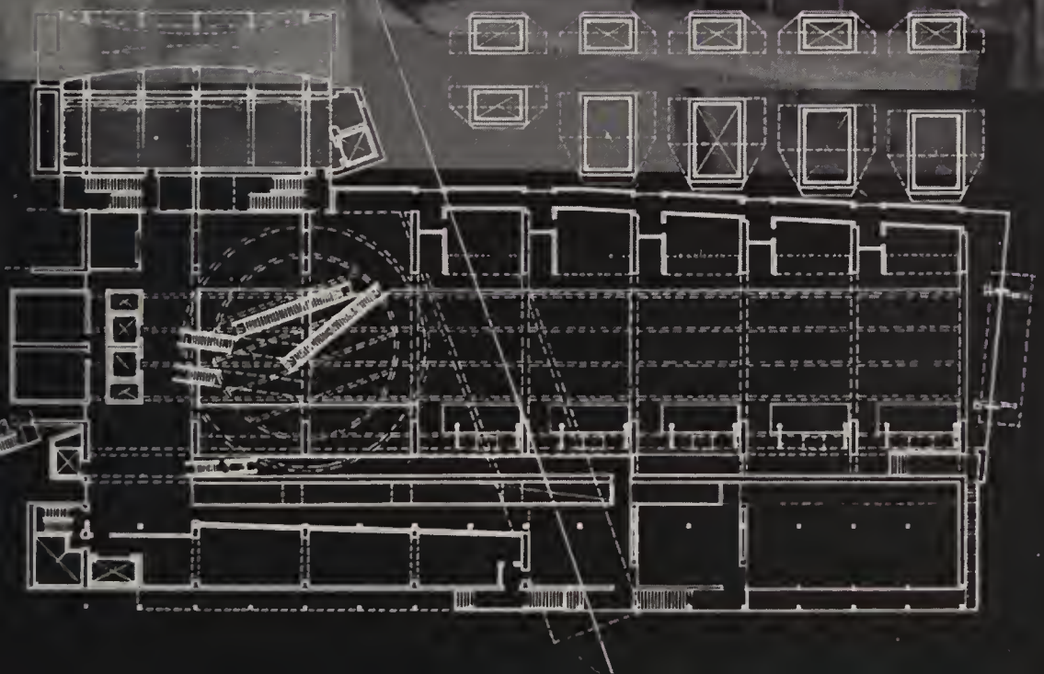


Thesis:

Boston Center for Urban Process

Scott Thomson





The making of the phenomenal experiences within an architecture, enabling a dialogue of making and remaking the city of Boston.

As a way of understanding the city, it is relevant to look further than the most apparent examples of wholes—the district, the building and the object. The project attempted to deal with relationships of wholes, such as material form (wall); representations of program as primal spaces; the building as a whole (defining its potential identity as such); and its absorption within the larger contextual wholes of history, space and (potential) memory. These simultaneous wholes are set and are defined in terms of each other. The interface between them was proposed as the meaning.

Fig. 1. S. Perez
Ginkakuji
Kyoto

Minimal Complexity

A Report from Tokyo

Fig. 2.
Ushida-Findlay

Truss Wall House

SANTIAGO R. PEREZ

Thus begins a story of the destabilization and re-combination of a Subject with (his) surroundings. A landscape which deflects any attempt at appropriation, which resists the formation of an Identity with the Subject, which may be said to constitute the basis for Meaning. My own encounter with this Land-(E)scape has been no less traumatic, or Event-Full.

It began as an attempt to See, to Interpret, to Understand. It has instead become an intertwining, a loss, an erosion.

Modes of Spatiality in the Japanese Metropolis.

"This is the record of a box man.

I am beginning this account in a box. A cardboard box that reaches just to my hips when I put it on over my head. That is to say, at this juncture the box man is me. A box man, in his box, is recording the chronicle of a box man."

Kobo Abe, THE BOX MAN 1973

1. *See Figure 1*

My initial desire to appropriate the landscape dominated by my vision has folded back onto it-self in a radical deterritorialization which has captured my gaze and returned it to itself distorted, uncomprehending. The landscape has appropriated the Self which attempts to occupy, to dominate, to In-Habit.

Today we are increasingly confronted with the prospect of the appropriation and transformation of space into a totally mediated environment. This transformation threatens (or promises) to replace the Natural Landscape, with its fixed points of reference, materiality, and objective, lived experience, into an Artificial Landscape devoid of material existence[1]. This Landscape, horizon-less and Event-full, may be seen to continuously dis-place our embodied interaction with the lived world, a world of matter, objects, and direct, situated human contact, with an ambiguous, disembodied space of electronic transactions.

Fig. 3
Chinatown storefront
Yokohama, 1991

The only alternative for me, one which has proven to be very productive, has been to cease attempting to understand, to locate. In short, the very possibility of deriving meaning from the immersion in the Landscape of Tokyo has been to replace comprehension with a certain inattention, diversion, and dis-traction of thought. An inversion whereby Inhabitation of the Landscape is impossible, where only Cohabitation of the Self with its surroundings can take place. The price to be paid for this interminable wandering has been a loss of my original priorites and sense of self, which has been a prereguisite for any "Sense of **Si**(gh)**te**."

The unprecedented development of these modes of spatiality has been the subject of a growing body of literature, exploring its ramifications and possible implementation in every facet of (post) modern life. Within this context, a neccesity arises for an interrogation of architecture's <u>discursive spaces</u>, both theoretical spaces of abstract relations- denying or resisting In-Habitation, and the physicality of embodied, inhabited spatiality.

This Shift in attention has taken me from an initial survey of the variety and differences of recent Japanese Architecture, its relation to its own past, and that of the West from which it has combined, to a Discursive interest in the fundamental perceptions of the city. This change in attitude towards recording and translating perceptions has resulted in a move towards a degree zero of perception, of questioning the very possibility of spatiality, of existence.

The confrontation of a situated, embodied subject, with the Transactional space of mediated (electronic) relations has produced what has come to be known as the 'Crisis of the Real' In architectural discourse, it threatens to undermine the legitimacy and primacy of the object, and of objective perception and inhabitation of space.

My wandering in Tokyo has moved from surveying the Landscape to Inhaling it, attempting to make total immersion in the Flows of the City coincide with a radical Introspection of my (Self). This **topological**[2] enfolding has revealed the city to me, and at the same time has eroded any remaining boundary from which to retreat from the city, into my (previous) self.

In an effort to develop a critical understanding of this mediated spatial modality, it is necessary to understand the subject as the intersection of an embodied consciousness, externalized into the

What has emerged out of this process, is an attitude and understanding of spatiality which I am at present attempting to embody utilizing Photography, Video and Abstract Drawing as primary tools of investigation.

physical landscape of material existence, and a subjective, internalized and increasingly dis-embodied consciousness projected into an artificial landscape of abstract relations- as both embodied and mediated.

This apprehension I have termed "**MINIMAL COMPLEXITY**"

This abstract space of relations has tended to displace the notion of corporeality, of the object-ness and given-ness of the physical landscape, and its intentional perception by an embodied subject, with a network of half-presences and dis(embodied) Subjects, dominated by a shifting, groundless, incorporeal subjectivity.

2. *See Figure 2, Truss Wall House, a recent work by Kathryn Findlay & Eisaku Ushida in Tokyo, Japan. See also* ***SLOW inFORMation****, by S. Perez, in the Royal Melbourne Institute of Technology Journal- THE INTERIOR, Volume 1, Numbers 5 & 6, Summer/Autumn 1992-1993, pp. 23-25.*

Fig. 4
Shibuya electronic newspost
Tokyo, Japan, 1992

It may be seen as an attempt to re-examine the implications of Minimalism, especially the work of Robert Smithson, and of Existential Phenomenology, in comparison with the generation of complexity and ambiguity.

Within the context of architectural theory and the (built) objectification of space, there appear to be two primary aspects of this crisis. One is a loss of identity, orientation, and integrity of the subject. The embodied, situated subject, upon confronting the effects of mediated, electronic spatiality and temporality, may be said to undergo a crisis of Ontological Instability. The second aspect manifests itself, in architecture, as a loss of placeness or Site. The active surfaces which absorb this loss of integrity, this erosion of spatiality as a lived, subjective, corporeal existence, are constituted as Boundaries.

Fig. 5
Naomi Seki
Tokyo, 1991

What may be seen to arise from this comparison is a new framework, a critical position from which to develop a Thesis towards Spatiality. In this context, the recent work of Japanese Architects, and the City itself, become both Vehicles or **(Non)Sites** (Smithson) from which to observe the paradigm shifts taking place at the periphery of Architectural Discourse today.

The transformation and loss of Site, as embodied in the erosion of Boundary, may be said to constitute an (irrevocable) destabilization of both the Subject's sense of itself, and its lived-world.
Within this framework, the change which has taken place deals with the notion of Site as Interval, Rift, as something In-Between, as opposed to an absolute, transcendental presencing.

In the (electronic) landscape of modern Japan, two primary responses may be observed, perhaps mutually inclusive, to the paradigm shifts taking place today. This shift is, of course, that from a Cartesian, Linear understanding of Spatiality and existence, as represented by the (Viewing) Subject, towards a Nonlinear, Dynamic understanding of Life and Matter as **Process**.

photo Douglas Stefanov

Fig. 6
Naomi Seki
Boston, 1993

We have arrived at two concepts for defining (through language) the notion of Site. One is the constitution of place, or Site, by the interaction of embodied material actuality, or things themeselves, as perceived by a self-conscious subject, within a relational grid or field. This system of relations is operative only insofar as it is sensed, understood, held in memory, in other words, as a lived, bodily experience. The second concept is that of Boundary, which may be seen as INterval's "Other". Together, boundary and interval create the (structural) parameters which allow the presencing or embodiment of things themeselves. It may be understood as an embodiment of a Difference.

With this shift, we have witnessed the replacement of the Mechanical (view) of process with the Electronic (Scan). The Perspectival Grid of Durer has been displaced by the Dot Matrix, devoid of Horizon, or Situated Sight.

Spatiality is thus seen to be dependent upon Duration (Bergson), and interval, embodied and perceived only in its delimitation of the interiority of a conscious subject with its extension, its Intertwining (Merlieu-Ponty) in

In Tokyo, the first response to this shift may be seen in the work of Ando Tadao, in his Kidosaki House or Collezione Building, both of which are descendants of an attitude towards the spatiality of the city which was first manifested in his Sumiyoshi Row House. (Fig. 8). This attitude may be seen as an attempt to inscribe a Limit or Boundary, itself oscillating from enclosure of an (absent) center to delimitation of an (Indeterminate) periphery. It attempts to utilize the (material) force of the Wall as a device for confronting the (subject) with its own loss of internal boundaries, in the face of the overwhelming saturation of the environment with information.

Fig. 7
Minimal Complexity Installation
Boston, 1993

a life world. Spatiality could be said to be the maintenance of a critical difference between interiority and exteriority. Gilles DeLeuze has observed this confluence of space and time in Bergson's writing on Duration:

The second response, perhaps best illustrated by the work of Toyo Ito, attempts to utilize the (Non)spatiality of Electronic Information Networks as a means with which to develop a critical confrontation between the Subject's (loss) of Interiority and the erosion of boundary. His recent "F" Building in Tokyo may be compared to Ando's Row House in this respect.

> **"For experience always gives us a composite of space and duration. Pure duration offers us a succession that is purely internal, without exteriority; space, an exteriority without succession. ...The two combine, and into this combination space introduces the forms of its extrinsic distinctions or of its homogeneous and discontinuous 'sections', while duration contributes an internal succession that is both heterogeneous and continuous."**
>
> -Gilles DeLeuze, Bergsonism, (New York:Zone Books, 1991) p.37.

Perhaps by now it may be seen that my own loss of grounded, situated existence has allowed the very possibility of making these observations. It is my hope to develop these discursive insights into a series of works which may re-introduce the significance of Japan to the West as a vehicle for observing its own transformation.

Tokyo, Japan 1992

Fig. 8
Ando
Sumiyoshi
Row House

POSTSCRIPT: BOSTON 1993

"MINIMAL COMPLEXITY" was the title of a joint installation by Santiago R. Perez and invited Japanese Sculptor Naomi Seki. The work of both artists was on display at the Boston Architectural Center Gallery in the Spring of 1993.

This investigation was made possible by a Post-Graduate Research Fellowship by the Tamaki Foundation, sponsored by the Harvard Graduate School of Design. The installation was funded by an Educational Endowment Grant sponsored by the Boston Architectural Center.

Special Thanks to the following, for generous support and assistance:

TOKYO:

The office of AMORPHE Architects; Naomi Seki, Sculptor; *Akira Yoneda, Architect. Kathryn Findlay & Eisaku Ushida, Architects.*

BOSTON:

Eytan Fichman, Architect; Elizabeth J. Moody, Architect; Eric Gould, Architect; Douglas J. Stefanov, Holly Zickler, Scott Sindorf and all of the students who put their lives on the line.

Fig. 9
Toyo Ito
'F' House

Rolling Bridge Initiative

THE ROLLING BRIDGE INITIATIVE with PAUL LUKEZ ARCHITECTURE + DESIGN

This article describes the on-going process with which the *Rolling Bridge Initiative (RBI)*, in collaboration with *Paul Lukez Architecture + Design (PLA+D)*, seeks to save and re-use Boston's Old Colony Railroad Bridge, currently slated for demolition as part of Boston's Central Artery/ Third Harbor Tunnel Project. Over the past two years the *Rolling Bridge Initiative*, a consortium of artists, architects and urban planners directed by Michael J. Tyrrell, has brought to public attention the need to save this historically significant bridge.

Historic Landmark

Built in 1898 by the New York New Haven and Hartford Railroad, the rolling bridge was an important component of the Boston Terminal (South Station) Project and linked the city to it's south shore communities via the N.Y.N.H.&H's Old Colony branch. Designed around the patent of Chicago engineer William Scherzer, the bridge is the oldest draw-span of it's kind in America. Unlike most swing-span bridges of the era, it's "rolling lift bascule" technology allowed for greater channel clearances along narrow urban waterways (*fig. 2*).

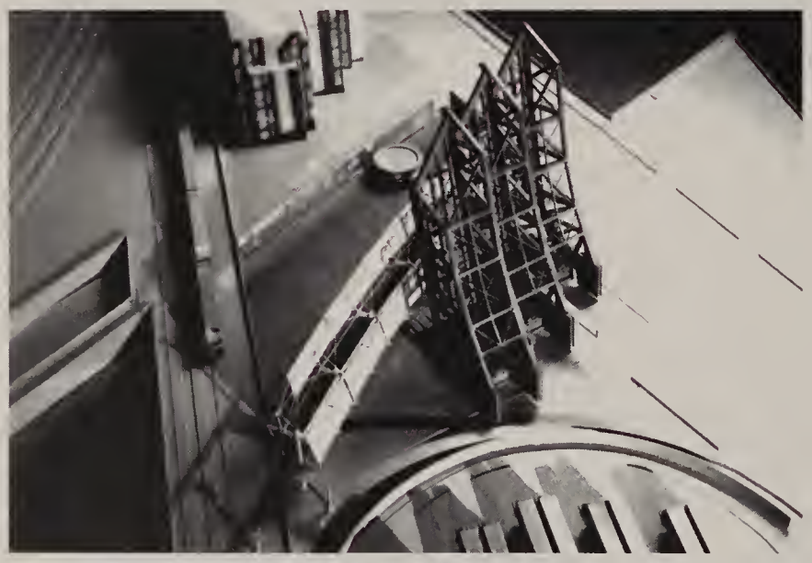


fig. 1

The bridge is a significant remnant among the roads, channels and rail lines that criss-crossed the ever shifting boundaries of Boston's South Cove. Known today as the Upper Fort Point Channel, the South Cove became a narrow waterway through successive landfills as industries expanded. This "made land" would eventually eradicate the setting depicted in Milbert's 1823 lithograph *View from South Boston Bridge* (*fig. 5*). In her 1912 memoir *The Promised Land,* Boston immigrant Mary Antin recalled her memory of this landscape from the very place where Milbert drew his perspective:

"I liked to stand leaning on the bridge railing, and look down on the dim tangle of railroad tracks below. I could barely see them branching out into the night in pairs.....fascinated by the dotted lights, the significant red and green of signal lamps. These simple things stood for a complexity that it made me dizzy to think of."

Traces of this complexity are still evident today, as layers of infrastructural systems share a synthetic geography (*fig. 3*). This lost urban waterway provides Bostonians a window onto the city's nineteenth century economy and topography. The bridge illustrates Boston's engineering and transportation heritage. To remove all vestiges of this artifact would eliminate a link between the current population and it's rich industrial and mercantile tradition.

Monument/Timepiece

The proposal relocates, in it's drawn position, the rolling truss components of the bridge to an adjacent site along the Upper Fort Point Channel. This [re]location activates a residual public site (owned by the Massachusetts Bay Transportation Authority) and provides a means of linking and connecting other remnant sites as well as opening new pedestrian/bikeway corridors between the upper and lower channel basins (*fig. 1*). The site, prominently visible from

fig. 2

fig. 3

MODEL PHOTOGRAPHY DOUGLAS J. STEFANOV

fig. 4

BOSTON ATHENAEUM

fig. 5

the Massachusetts Turnpike, Southeast Expressway, Amtrak and MBTA commuter railways, marks a gateway to the city and the harbor.

Integral to the proposal, an elevated footbridge recalls the promenade depicted in Milbert's lithograph and reveals an attractive but relatively unfamiliar view of the city's skyline. Cantilevered over the channel, the elevated walkway is bounded along two sides by offset parallel scrims. The scrims, 30 ft high and 300 ft long, curve along the channel pier-head, parallel to and north of the upright bridge (*fig. 4*). Shadows cast by the intricate truss-work will chart daily and seasonal cycles across the scrim surface of this urban time piece, visible to pedestrians and to commuters traveling by car or by rail. A lighting program will continue this sequence throughout the evening hours.

Public Realm/Activism

While investigating theoretical issues relating to time, perception, transformation and urban design, this proposal also supports objectives defined by community groups and planning agencies. The proposal is consistent in scope with the Fort Point Channel Public Realm Guidelines currently under discussion by the Boston Redevelopment Authority. These mandate greater pedestrian access along both banks of the channel and encourage creative solutions to the adaptive reuse of the old Northern Avenue Bridge, as well as restoration of other spans along the channel. The shifting economic and social conditions of the late 1980's have galvanized architects and allied professionals into addressing issues neglected during that decade's building boom. For instance, greater attention is being focused upon propositions for the enhancement of derelict and remnant urban spaces, including the adaptive re-use of infrastructure and industrial artifacts (note Rem Koolhaas's proposal for re-using the Maas Bridge in Rotterdam, and Kennedy/Violich's Central Artery interim pedestrian bridges.)

Public action initiatives of this nature can establish the profession's role as a catalyst to the decision-making matrix which shapes our built environment. Such design initiatives present fora in which issues straddling theory and practice can be addressed and synthesized. This Initiative and subsequent proposal describe a method in which architects can take an entrepreneurial and activist role in transforming the urban public realm. RBI has engaged in activities outside conventional practice, including public education through mass media, collaboration with community and govarnmental bodies, and lobbying of financial resources.

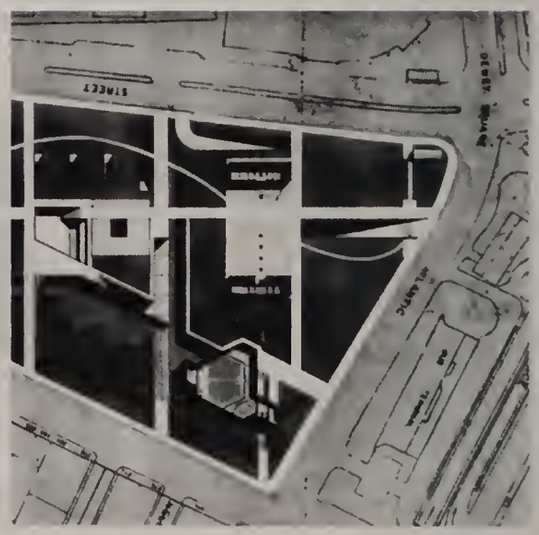
Segment II Studio:

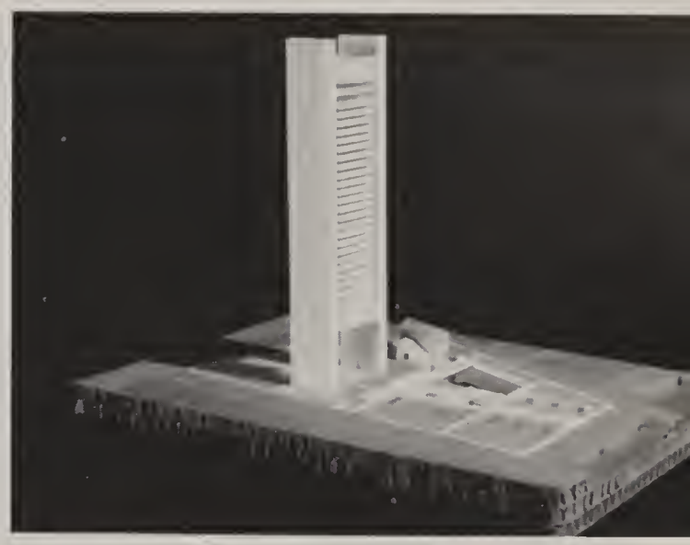
Keith Hudson, instructor

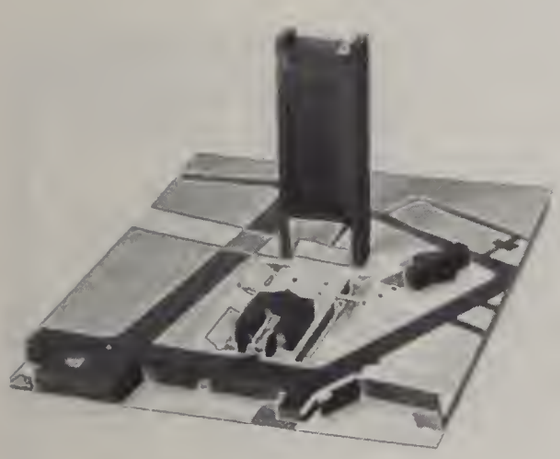
This studio considered the nature of addition. Construction processes formed the context for evaluating a host structure critically through the act of addition. Students developed individual methods of inquiry employing analysis, programming and design.

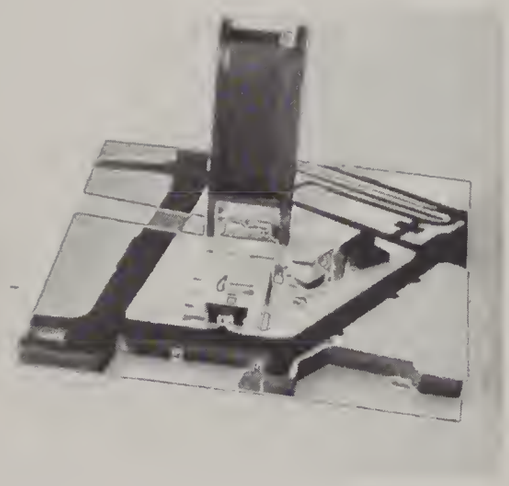
The program proposed physical additions to the Federal Reserve Bank of Boston. The Federal Reserve Bank tower (Hugh Stubbins, 1977) is a structural *tour de force*. The long-span floors of the tower are supported on tall pylons, which in turn straddle a low, U-shaped mass housing public areas and secure banking operations. The upper floors of the low-rise block contain recreational and employee facilities, including access to a landscaped roof garden facing Fort Point Channel.

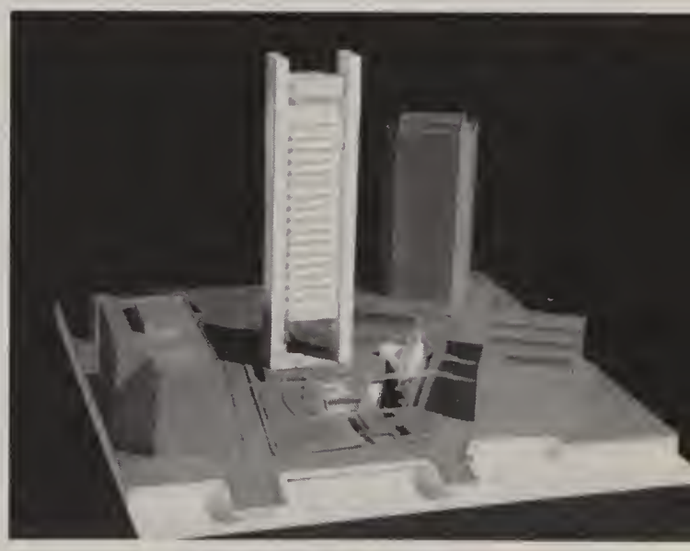
Each student developed a program (strategy) for addressing the site and the existing Federal Reserve Bank. While the studio dealt with a single subject (existing building), the methodological tools developed here have applicability beyond this project.



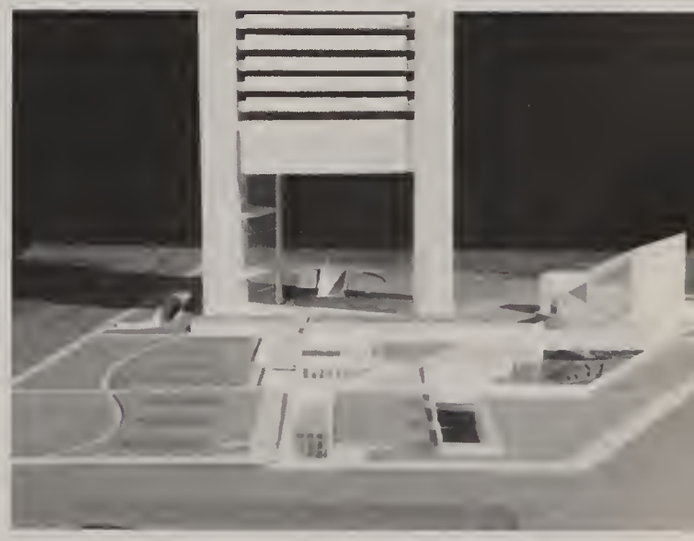


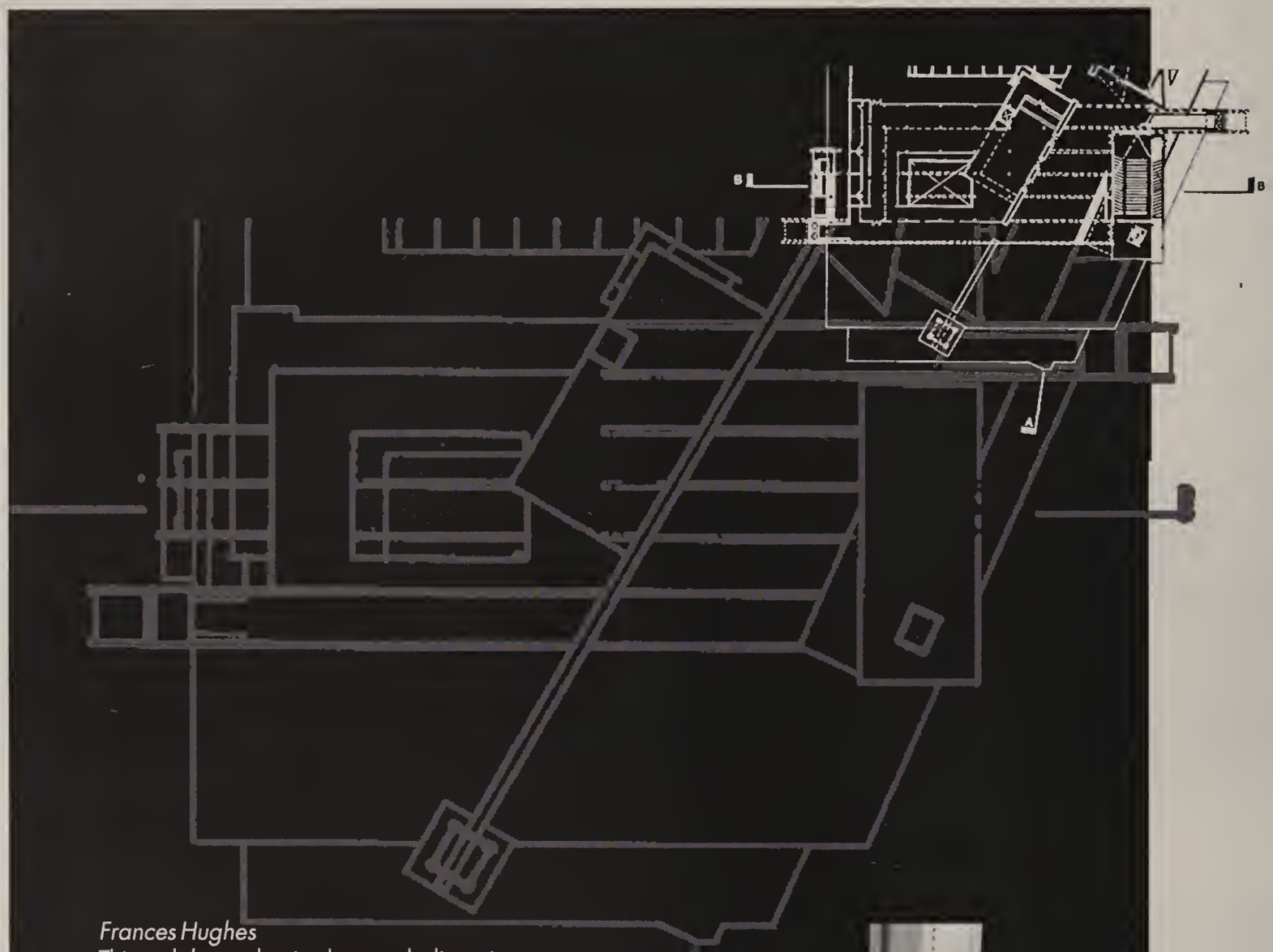






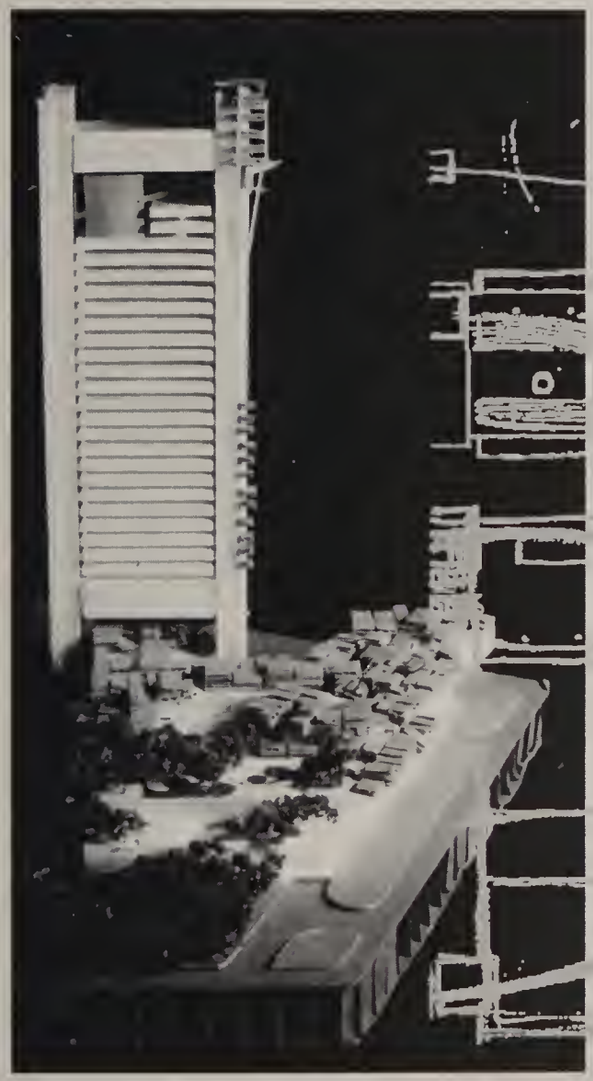
Alex Higgins
Noting the proposed open space plan for a continuous park to remove the existing elevated Central Artery, this project replaced the existing, low U-shaped mass of banking operations with a new public park. This new park would link the channel walk open space with the new Atlantic Avenue parkway, and would invert the current image of the building by making it accessible, inviting and ultimately public. The addition became an investigation in subtractive design, an archaeological dig into the site, revealing history and structure.





Frances Hughes

This study began by simultaneously dissecting and adding to the Federal Reserve Bank low rise operations wing, revealing and highlighting elements within it. Noting the landscaped roof gardens, these elements evolved as *site*, continuing the existing trays of the structure and linking the addition to it both thematically and programmatically. The new additions were further anchored to the existing Federal Reserve Bank by vertical circulation elements and multistory open spaces, which opened the institution to both sunlight and the city surrounding the site.



Neil Higgins

This project began by formulating an addition through a narrative that incorporated social, site and structural responses. The addition went beyond addressing the site and its existing building, to critiquing the existing Federal Reserve Bank system and its (dysfunctional) economic order. Towards this end, the study proposed a squatter village of the homeless taking over the building and creating a hermetic, self-sustaining community.

"Space becomes solid, amniotic fluid of information. With such total saturation, what space is left for growth of the system? . . . Today the industrial system of production, whether of information or of objects, lies wholly within the territories of the imagination, of pure narration."

- Andrea Branzi

"On the whole, the audience longs for urban innocence, because any other prospect is too frightening."

- Nigel Coates

FIG. 1

Speaking Architecturally:

Public Culture and the Information Landscape

ERIC GOULD

For a competition of speculative visions of Boston's future, abandoned smokestacks were chosen by a collaborator and myself as vessels awaiting a new role in the late-20th century urban landscape. Incineration within the city limits ended some time ago and dead stacks were plentiful. Four schemes were devised, and each tower's design was site-specifically generated. The Artist Tower in the Fort Point Channel area sought to create more space for a low-income group, at that time in danger of being pushed out of a gentrifying industrial neighborhood. We found in the alchemical transformation of a symbol of malignancy—perhaps now one of industrial impotence—into one of activism, the basic role of architectural design itself in the process had been revised. Its new, quieter role was to speak to something outside of traditional formal concerns, and it accomplished this in a way akin to the public arts.

For us (sculptor Jerry Beck and myself[1]) the resonance of this act was in the fusion of its constituent concerns: architecture, sculpture, urban design, and social critique. Most vital was the procedure's sense of architecture joining a cultural debate in a way previously unconsidered by us. Here was a process where architecture was somewhere outside formalism (although this was undeniably our visual preference) and which sought to communicate the dread and ecstasy of late-20th century culture.

The itching, recurrent belief that architecture can realign itself with the visual arts in the arena of cultural critique persists. Typically considered by practitioners as outside the critique of art, architecture is often viewed through a narrow and formalistic lens. The discourse of visual vocabulary—its meaning and significance—is generally dismissed from building design by architects as too willful to incorporate or too arcane to acknowledge. In architecture, the political and societal commentary so critical to artistic discourse[2] is generally considered self-indulgence. There are too often noticeable absences of authentic visual criteria in architectural practice, and industry-wide, it could be said, it is irrelevant and unknown.

Affecting this condition is that visual abstraction, the architect's currency of choice, is often depleted of the vitality endemic to early modernism, and must frequently make its linkage to a cultural critique purely through its formalism. Once a radical reflection of—and commentary on—the modern world, these visual legacies are now so often held as the message themselves when truly, they are the messengers—the visual language of a supposedly higher conceptual operation. Of course, in the hands of skilful practitioners,[3] abstraction is by no means a dead language. On the contrary, as a visual method it is the preferred dialectic. As a sole means of communication, however, the practice is less compelling. Inclusive of metaphor, allegory, narratives, political themes and sociological concerns the modernist vocabulary finds resonance. These subjects are unfortunately often consigned by architects to the visual and literary arts. A technique of meaning and communication is a deliberate operation outside of pure abstraction and phenomenology.

There are evocative experiences to be found just beyond the borders of abstraction. The recent small-scale designs and proposals shown here were explorations into a process where a commitment to formalism was held, while incorporating a broader spectrum of public language.

Architecture can and should examine the iconography common to the public realm for relevancy. The process of an architectural discourse which includes the agenda of art can engender an authentic public interest. The architect's traditional touchstone of abstraction need not be sacrificed in an effort to develop artistic works within the built environment. What must be taken into account is that, traditionally, buildings-as-objects were used liberally as devices of communication. James Wines has written persuasively in *De-Architecture* about an architecture of communication which incorporates the artistic discourse. Generally reviled by the architectural profession (as were his early works with the firm SITE) the text argues a return of public buildings and spaces to their pre-modern and early modern origins, of making an architecture which is intimately involved with and reflective of the vital cultural issues of the day.

"One of the more important iconographic contributions of architecture could be to prefigure and evoke a sense of a contractive world, to comment on the omnivorous forces that are destroying our environment. As in Gothic and Renaissance cultures, the public facade of a building could be one of the most direct vehicles of communication. Excluding its common exploitation in commercial advertising, the facade is a truly underutilized resource for transmitting socially conscious ideas."[4]

What this asks for then, is a view of late-20th century design and architecture which exceeds popular definitions of modernism. Industry wide, architectural modernism is typically a visual style devoid of its origins as an industrial and cultural phenomenon. A glance at the history of the movement will show that what Modern architects and designers were striving for was a visual communication of industrial and

sociological processes that were forever metamorphosing the world. Early modern architecture, Wines writes, was "a powerful symbol of the industrial and technological era and the embodiment of its social and psychological mythology...a building communicated on the highest level not because everyone felt comfortable with its image but because it made people think about architecture. This kind of dialogue is, after all, the fundamental role of art in society."[5]

Today, in our phase of hyper-media, cyberculture, transnational corporate states, environmental upheaval and secular consumerism, culture has never before been as explosive or critically rich. Yet, where is the evidence of the classic Modernist linkage to architecture or to civic culture one would expect to find? The examples in which architecture has married its visual criteria to these vital issues are in a clear minority. Socio-economically the world is transforming, and this process is evident almost everywhere except in the built environment. In *The Experience of Modernity*, Marshall Berman writes that the torment and rapture of early modernism is perhaps more relevant and urgent than ever before:

"[We] are moved at once by a will to change—and by a terror of disorientation and disintegration, of life falling apart. . . . To be modern is to live a life of paradox and contradiction. . . . To be modern is to find ourselves in an environment that promises us adventure, power, joy, growth, transformation of ourselves and the world—and, at the same time, that threatens to destroy everything we have, everything we know, everything we are."[6]

It is critical to see architecture as a process which is inclusive of Modernism, which reaffirms and re-links the issues of the marketplace, the home and art, and one which steers itself away from uncritical formalism. Wines points out that the initial tenets of Modernism—technology as a remedy for social dilemmas, the building as a statement for social responsibility, functionality and formalism as an aesthetic—were soon after lost in a profession that is visually oriented, not issue oriented. "It soon became evident that only the means, and not the meanings, of the original Modernist revolution remained."[7]

And therein lies the paradox of owning precious little while zealously hoarding it; a profession which generally relies on a vocabulary it has inherited but clearly has no emotional or intellectual commitment to, and a knee-jerk distrust of any criteria which fall outside of its own demarcations—that is, *within* the artistic realm.

Ironically, the deficiency in *De-Architecture*, as well as other earnest arguments for a public architecture of meaning, is its lack of standing examples. We find many instances of social and psychological content in public art and public landscape architecture, but few inhabitable examples. This entrenched conservatism towards what is accepted as real "architecture" and what isn't is stark commentary on the poverty of vision by all parties of the building project—government, owner, architect, builder and public. Perhaps most ironic is that the professional architect, educated as the visionary in the style of Ayn Rand's Howard Roark, is usually the most unwilling advocate of an authentic artistic process, or collaborations with artists. Architects who consider design to be the only "real" art usually find visual art and its theory intangible, difficult, esoteric and generally useless.

Whether it is a distaste for art or merely a fear of it, abstraction is often held as the only true mirror of Modernism, while the opposite is true. A more faithful sense of Modernism integrates visual vocabulary and narrative content. In a discussion of the

Zeebrugge Maritime Terminal design by Rem Koolhaas, Fredric Jameson said, "I think that what's brilliant about Koolhass's work is not only the obviously very striking nature of the buildings themselves, but also the way in which the work offers an interesting paradigm for other levels of social life, such as the political or even the ethical, the psychoanalytical, and so forth."[8]

So, there is a creative space for some architects which lies just outside the usual boundaries of formalism and opens the genre to a public relevancy. Here lies an important place where methodologies and techniques previously disregarded or deliberately placed out of bounds—both professionally and academically—can be explored. Where the concerns of art, architecture and the public merge and begin to infiltrate and inform the other's criteria, lies a spatial condition more suitably attuned to the visual issues of modernism and the city. Jameson refers to the "postmodernization of space", where transforming notions of public and private and of shifting economic forces are read like a text in the urban landscape. The Artists Tower (fig. 1) seeks to express such phenomenological intersections. Here the transformation of an urban relic's shared meaning from one of destruction to one of rejuvenation was intended as such a public reading.

While techniques which involve this kind of transformation or appropriation of an image for cross-associational purposes are often endemic to art production, they have obvious and provocative application in architecture. A dislocation which transforms an object's immediate cognitive meaning, evoking a strong sense of the habitual nature of signs, must also call the relationship of architecture, meaning and communication into question. In *Street Signs*, Nigel Coates writes that this operation cross-fertilizes a system of signs which destabilizes the objectivity of a building and "throws the meaning of the subject back towards the spectator."[9]

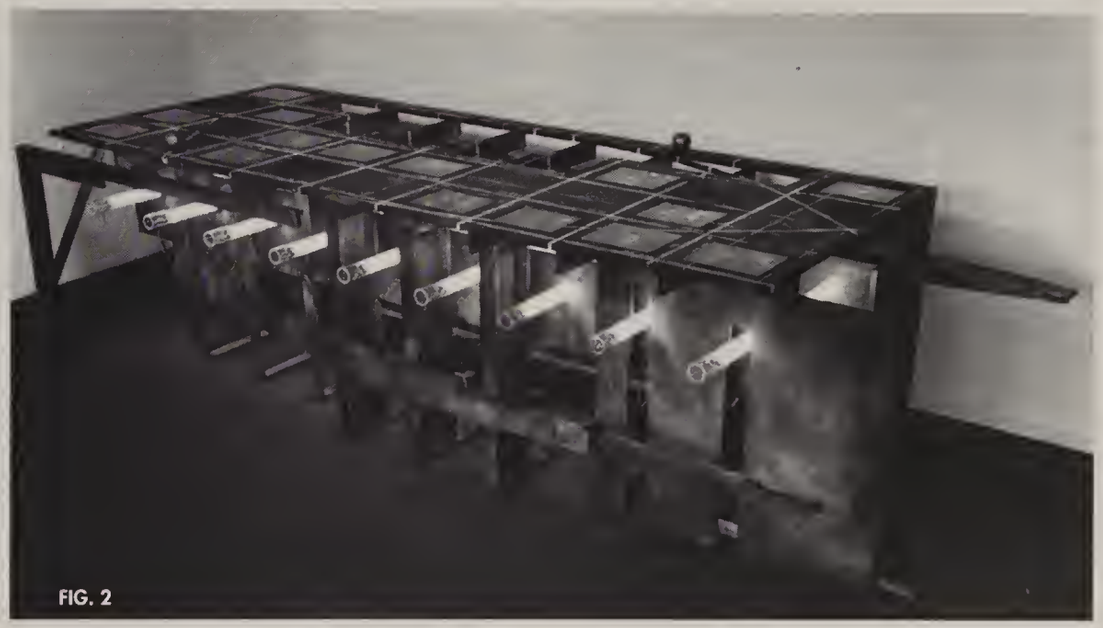


FIG. 2

In the sculpture Table of haLF LIVES (in collaboration with photographer Diane Bonder, fig. 2.) the intention was to invert the subject—the periodic table of elements—as a device for such destabilization and commentary. Created for an exhibition addressing themes of nuclear issues, the table's architecture was a direct reference to a reactor core. Instead of cataloging natural elements, however, each box of the table top's matrix represented dangerously toxic isotopes created during fission. (Plutonium 239 has a half-life, or one half toxicity reduction, of about 24,000 years.) Bonder's photo-montages of radiation victims and waste dumps superimposed on government charts, graphs and early pro-nuclear propaganda publicity photos graphically depicted the urgent dangers inherent in nuclear power. The pictures were lit from the bottom by fluorescent tubes meant to evoke graphite control rods at the core which become hot with radioactivity as they modulate the speed of the atomic reactions.

Though illustrated here through the medium of a sculpture project, the notion of subjective inversion generally heightens contrast and marks the reactive idea that "normal" architecture is real because it does not communicate or seek discourse. What is problematic is not the preference for a formalism but a sole reliance on it as a container for culture rather than as an active participant in it. Authentic Modernism—a true artistic process—involves questioning conventions, incorporation, and constantly reevaluating

visual meaning and so, our understanding of the world around us; techniques which are consistent with modern architecture's legacy. The public's intimate understanding and opinion of the environment can be developed by provoking imagination and intellect. In a true reflection of modernism, Coates concludes, "Architecture can learn from the psychological schisms, signs and patterns—the social narratives—of the times, and see them in parallel with madness and sanity."[10]

The arena of narrative architecture, (coined by Wines, Coates and others) primarily remains the property of public art and landscape architecture. Landscape architects such as Martha Schwartz and Peter Walker, as well as artists like Siah Armajani have made significant progress in infusing public space with social and artistic commentary when architects could not—or would not. In an essay on Walker's work, Elizabeth Meyer writes that public space, above all, can serve the needs of community as well as intellectually confront society.

Walker and Schwartz have discovered a middle ground between abstraction and pop culture, a state that invites—indeed, requires—the viewer to find meaning by mentally interpreting form and symbol. (Their work) addresses the recent landscape's inability to speak, to represent, to be meaningful. . . . It is civic space that makes one think as well as feel, and it is landscape that criticizes as well as accommodates. When these conditions coexist, landscapes can be "public places as art".[11]

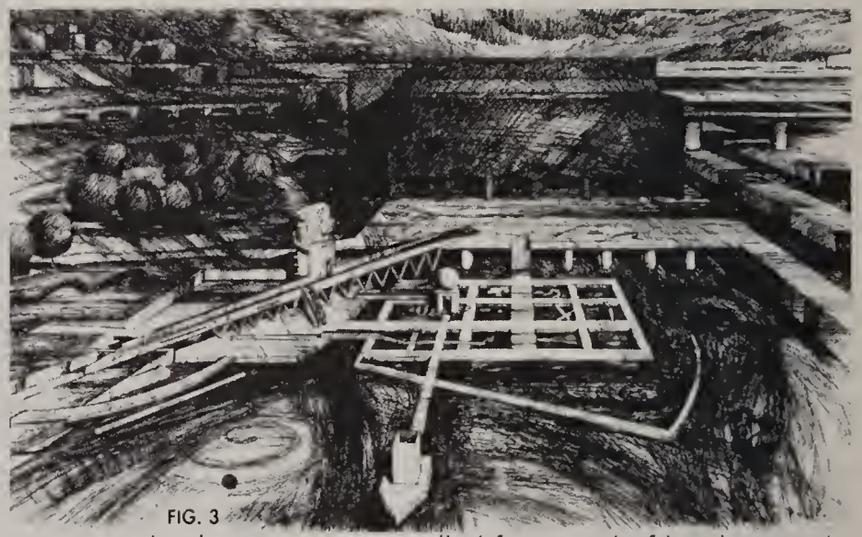


FIG. 3

Similarly, two proposals incorporate this problem of meaning and the public landscape. In the Elementary Pools project, (fig. 3.) public space was a medium to express environmental concerns. The site was the Charles River below a proposed bridge into Boston's Central Artery project. Here, a proposed sculpture park reclaimed an abandoned strip of land at the heart of a future multi-tiered expressway interchange.[12] The piece was a combination floating platform and pedestrian bridge to the envisioned Reclamation Park entrance. In tandem with the Boston harbor clean-up, it called for a grid of hatchery tanks containing young cod and haddock (the mythical "Boston Scrod") in crystalline fresh water. This floating grid, visible to commuters on the roadways high above, would stand in striking contrast to the river's brown waters. Upon completion of the harbor clean-up project young fish would be reintroduced to the ocean through the fish ladders at the existing pump house locks. The project also included a raised, spherical aquarium and a turf-covered "Sky Room."

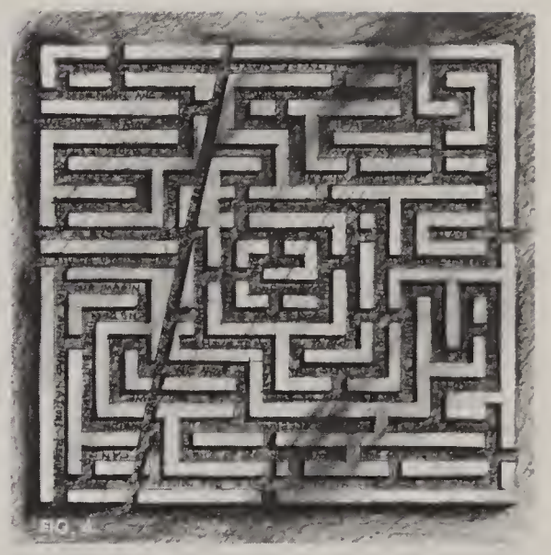
What is ironic about projects like Elementary Pools is the reactive conservatism they inspire in public debate. Whenever

public space is approached as "an art project" there is an uncanny resistance by local communities simply because art, or more to the point—an artist—is involved. These are the same communities which are habitually the compliant subjects of highway engineers and urban planners. In a nation built on the appropriation of a frontier superimposed with actions of moral and political freedom, land and public space are still the American canvas—as long as the painter does not identify him or herself a professional artist. In his journal *America*, Jean Baudrillard writes that "movement is [the American] occupation; nature is a frontier and a place for action...Freedom here has no static or negative definition. Its definition is spatial and mobile."[13] It should be this impetus of social and spatial activism that makes public space and public art, once confined to the domain of statues and obelisks, reactivate the public landscape in the 21st century.

The second example of public space and information exchange emerged from a fragment of another Baudrillard notion in the journal *Cool Memories*. At a glance, the Anti-Maze project (Fig. 4) appears to be a normal labyrinth, with one correct path and multiple dead ends. In opposition to this standard form, the participant would find no obstacles indicating an erroneous direction, only continuous turns. The meaning of the maze is first inverted by the circumventing route which defeats its purpose of entrapment and then by its transformation into a centerless form. Inlaid on the floor of the labyrinth is a text, a fragment from Baudrillard's journal which says "We must move from one to the other". The layout of the maze would break up this sentence into smaller parts depending on the length and connection of the passages. It might read, depending on the direction and orientation, "from one—we must move," or, "to the other, we must . . ." or perhaps, "one . . . we must," and so on. There emerges a corresponding meaning between figurative and literal perpetual movement.

Undoubtedly the most prolific current arena for art and environment is in public art, despite sometimes fierce public opposition. For unsubstantiated, yet understandable reasons, gestural abstracts—large object sculptures—have assimilated into public life as appropriate city furniture. Here, when art is viewed as functionless tableaux, it is perceived benignly and therefore as less threatening. The issues of the independent artist working publicly in society are complex, but what is important is that once the mainstream genre of public art transcends its own decorative, formalistic boundaries to encompass a critical agenda of discourse, both quality and the public interest are enriched. This is perhaps best seen in works such as Jenny Holtzer's electronic public information scrolls or in the Times Square tote board in New York City which publicly clocks the inexorable national deficit. Critic Hafthor Yngvason writes that the role of public art must engage an authentic, relevant social debate. "...Art should still strive for a meaningful function in the public realm and should be capable of real participation in democratic culture."[14]

As demonstrated by many current public art works, site-specificity produces strong references to the particular physical or historical characteristics unique to a location. This engenders a poignant awareness of the vital links between history, commerce, cultural exchange and the city. Gestures recalling or referring to specific characteristics of the site frequently emerge as the genesis of an entire design. For The



Daily Muse project (produced in collaboration with the itinerant Boston inter-arts group the Revolving Museum, Fig. 5) a Daily News sign adjacent to the site was appropriated as part of the sculpture. It was incorporated as the masthead for a sculpture entirely sheathed in tabloid-style newspapers resembling a giant front page. The intention was to create a piece which meditated on the public's addiction to sensationalistic news. As the sun changed the color of the sculpture's exterior newsprint panels, the totemic "editorial" columns inside, such as the business column

(a stack of stuffed shirts), were illuminated by the dim light of "yellow journalism".

Similarly, the Cardo-Decumanus project (Fig. 6) for Socrates Sculpture Park in Queens, New York, framed site-specific vistas and performance[15] for commentary on urban density. Socrates is an ad-hoc urban park reached after a walk through an industrial and manufacturing zone and commands panoramic views of the Manhattan skyline. The sculpture was a participatory site-work and structure. It functioned as a landscape allegory reflecting on the visual and political dominance of the panorama over its surrounding sprawl. A compass-form was

FIG. 5

fashioned by a mound and colored, crushed slate paths symbolizing the four directions lead to its center. From the main axis, its Roman "cardo", one of the plumb bob sculptures punctuated a frame with yet another dense and impacting Manhattan high-rise under construction. At the center of the mandala stood the observatory, a symmetrical set of oversized staircases requiring giant leaps to the platform, perhaps indicating steps to a broader understanding of urban confluence.

To what degree a form or gesture at Socrates Sculpture Park, on the Charles River, or in a garden labyrinth might be considered publicly meaningful can be debated. When considering the merits of any public piece or place, what are often the signposts of its relevance are its appearance and its raison d'etre—its purpose and content. Repeatedly, the marriage or divorce of the visual and verbal—abstraction and narrative—is the definitive factor in cultivating the public's understanding and acceptance of art works in the environment. While this line is continually in flux, the value of communication through art in the public realm must be acknowledged. As Meyer has indicated, we must "demand more of architecture and design than formal inventiveness."[16] We must seek methods which establish meaning.

What the projects perhaps begin to suggest is that this operation of art and communication finding broader application in the city is complex, and it is one which will be difficult to integrate and resolve. But a practice where design informed by art produces a legible environment—an information landscape—is also one which is intellectually sustaining. Public art has shown successfully that narratives have a place as well as an audience. Nationwide, ideas of public space are reforming. Can architecture as a profession participate in the vitality of this debate with its own public reformation?

The receptivity of the public as well as that of the profession will have to be nurtured. Ideas of joining environment and art in a democratic process must be explored. What is clear, however, is that architecture should participate in a much broader critical spectrum and bring a revitalized vocabulary to the public. Whatever the message may be, the medium must change.

FIG. 6

Figure Credits

Fig.1 Eric Gould and Jerry Beck. Artist's Tower Project, 1988. Water color on print paper, 24"x36". Drawing by Eric Gould.

Fig.2 Eric Gould with Diane Bonder, "Table of haLF LIVES", 1991. Mixed-media, 11'-6"x3'-6"x3'-0"h. Photo: Dan Szabo.

Fig.3 Eric Gould, "Elementary Pools Project", 1990. Ink on mylar, 18"x24".

Fig.4 Eric Gould, "Anti-maze Project", 1991. Graphite and charcoal on paper, 9"x12".

Fig.5 Eric Gould with The Revolving Museum, "The Daily Muse Project". Art on the Beach Exhibition, New York, 1987. Columns by Deb Roth and Ilene Sunshine. Photo: Kathy Chapman.

Fig.6 Eric Gould, "Cardo-Decumanus", 1988. Socrates Sculpture Park, Queens, New York. Mixed-media, 25'x10'x22'h. Photo: Carl Scheidenhelm.

Notes

1. The Artists Tower was entitled "Inn-spired" for a collection of proposals known as "When the Smoke Clears . . ." in collaboration with Boston sculptor Jerry Beck. The designs were cited by the Boston Visions Competition in 1988. See Boston Visions: A National Design Competition, ed. Richard Fitzgerald and Alexandra Lee (Boston: Boston Society of Architects, 1988), 24.
2. A fine example of recent cultural critique through architecture and public space by an artist can be seen in Public Fantasy, An anthology of critical essays, fictions and project descriptions by Judith Barry, Iwona Blazwick, ed. (London: Institute of Contemporary Art, 1991.)
3. I am referring to practitioners whom explicitly acknowledge a practice of joining poetics and form, such as John Hejduk, Steven Holl, Stanley Saitowitz, Elizabeth Diller and Richard Scofidio, Robert Venturi, Martha Schwartz, Rem Koolhaas and others.
4. James Wines, De-Architecture (New York: Rizzoli, 1987), 47.
5. Ibid., 40.
6. Marshall Berman, "The Experience of Modernity" in Design After Modernism: Beyond the Object, ed. John Thackara (New York: Thames and Hudson, 1988), 36.
7. Wines, 42.
8. Frederic Jameson and Michael Speaks, "Envelopes and Enclaves: The Space of Post-Civil Society" in Assemblage 17 (Cambridge, Mass.: MIT Press): 33.
9. Nigel Coates, "Street Signs" in Design After Modernism, 102.
10. Ibid., 103.
11. Elizabeth Meyer, "Todos Santos Plaza" in Peter Walker: Experiments in Gesture Seriality and Flatness, ed. Linda Jewell (New York: Rizzoli, 1990), 36-7.
12. This area has been one of the annual sites of the Reclamation Artists exhibition dedicated to the adaptive re-use of adjunct properties associated the Central Artery Project. The eight-billion dollar project will see the depression of I-93, an elevated expressway running throughout the heart of downtown Boston. It is to be the longest tunnel of its kind in the world. Reclamation Artists are an itinerant group of public artists, architects and sculptors.
13. Jean Baudrillard, America (London: Verso, 1988) 94.
14. Hafthor Yngvason, "Art into Life: Contradictions of 'User Friendly' Public Art" in Sculpture, May-June 1992: 33.
15. In conjunction with the piece, performance artist Dare Dukes wrote and directed an original performance,""Grounding Mr. Bones" for the exhibition opening. It documented the fictional final days of Mr. Bones (Ross Minichiello), an architect of little distinction, who is camped outside his ideal dwelling in his hallucinations and deteriorating health and is joined by his guardian angel. The submerged "homeless box" remained a vestige of the performance throughout the exhibition.
16. Meyer, 36.

No Metaphor House

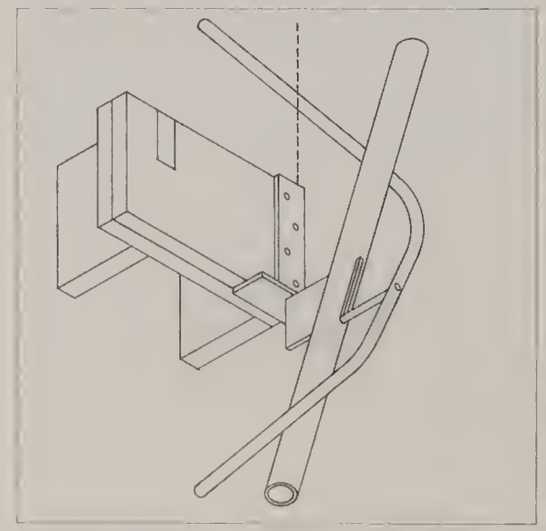
PAUL S NAECKER

The small house project has often served architects as a forum for polemical or ideological debates.

The house shown here attempts to discard layers of formal props, semiotic texts and stylistic filters that color and obscure the architectural process and deflect inquiry from its legitimate critical purpose. The project attempts to focus on the fundamental means and language at the architect's disposal: the objective act of building. Such a proposition requires rigorous analysis of building process with focus on the means, materials and methods of construction, rather than the formal, abstract, narrative and metaphorical.

This line of research has been well documented: first by the Neue Sachlichkeit architects (Hannes Meyer, Hanes Wittwer and Mart Stam), later by Le Corbuiser, Jean Prouvé and Charles Eames, and now by Herzog & De Meuron, Diener & Diener and Renzo Piano.

This small house project positions itself within the objective, critical continuum of **Architecture as Building (Construction).** The structure is defined exclusively by the demands of program and construction.



MODEL CONSTRUCTION: BRUCE HARVEY

DESCRIPTION

The project is a small house (1500 sf) for a professional couple and 2 children. The site is an old blue collar neighborhood with large wood, single-family houses and 'triple-deckers' on small lots. The client precis required a home that is compact, utilitarian and cost-efficient, open to the exterior, composed of spaces that are flexible and open-ended in potential use and modern without metaphor or excessive style.

SITE LAYOUT

The house is placed close to the north side property line with the narrow end facing the street. The placement leaves room on the north side for the carport-garage and driveway-play court. A large portion of the site on the southern side is available for an open garden.

HOUSE LAYOUT

The program is distributed inside a simple, two-story, rectangular volume. The volume is subdivided into two sections by a flexible interior-exterior room. All primary spaces are oriented to the south-facing terrace and garden. The two-story high interior-exterior room opens completely to the outside by operating the pairs of large glazed folding door-walls.

CONSTRUCTION

The house uses current process form (industrial manufactured) building technology. All structural and building components are unadorned except for protective coatings. Detailing and connectors are derivative of the building process and trim per se is not used.

The basic structure is wood-framed, with the exterior sheathed in marine plywood with a translucent yellow stain and protective polyester resin. The sheets are turned on the bias to provide maximum diaphragm stiffness. The long spans are wood 'micro' laminate framing, with steel lally columns supporting the curtainwall garden side. The large folding door-walls open completely, leaving the openings unencumbered. Windows are wood pvc-clad sliders, with an awning top panel for ventilation. The garage carport is covered by a folded plywood plate stressed skin roof. All roofing is a single ply, plastic membrane.

All metal components are blue-painted galvanized steel, and include the folded plate stairs, the butterfly stairway roof, the support struts and the bridge spanning the interior-exterior room.

Interior walls and casework are color-stained medium-density fiberboard, with all worktops and wet exposure surfaces of polyester resin solid surfacing material. The floors are polished, stained concrete on the ground floor and rubber flooring on the second.

Environmental control is provided by multizone heat pump and operable windows on all exposures.

Architecture as Building (Construction)

PAUL S NAECKER

Le Corbusier concluded his persuasive and controversial manifesto *Towards a New Architecture* with a modest, epigrammatic image, a **briar pipe**. For Le Corbusier, this image of a simple, high quality, mass-produced, consumer object signified the potential for technology to reinvigorate even simple hand-craft. Envisioning the same technologic promise for modern architecture, he championed nothing less than an **epochal change**. He proposed a built environment in which construction and the act of building would be critically informed by the leading edge of **engineering knowledge**. He postulated a formal architectural vocabulary capable of using the advanced technology found in the construction of bridges, automobiles, ships and aircraft. Le Corbusier believed that the potential for *technology transfer* would provide architecture with the formal aesthetic and detailing logic evident in the most advanced industrial process forms of the age.

The student (architect) today finds the imprimatur of modern technologic advance on architecture and building both

Patrica Anahory-Silva, *Student Project*

Architecture or Revolution

"...In every field of industry, new problems have presented themselves and new tools have been created capable of resolving them. If this new fact is set against the past, then you have revolution. In building and construction, mass production has already been begun; in face of new economic needs, mass-production units have been created both in detail and in mass. If this fact is set against the past, then you have revolution, both in method employed and in the large scale on which it has been carried out."

-Le Corbusier, ***Towards a New Architecture***

exhilarating and daunting. Unfortunately, there are very few opportunities in the student's curriculum to develop a general understanding of modern building construction. The student (architect), while still in school, begins to sense what many practitioners already know too well, that the **architect** has withdrawn from much of the responsibility for the detailing of buildings. Even more disappointing is the lost opportunity for the student (architect) to explore, in a critical manner, the emancipatory potential of modern technology as envisioned by Le Corbusier.

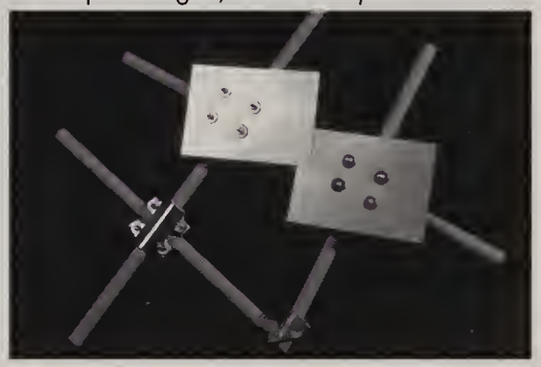
Many architectural degree curriculums offer building technology studies in formats that are confined to mandatory structures classes (formula-based and numerically-driven, with few links to the resultant impact on built form) and seminars on construction-related issues such as acoustics, environmental and mechanical systems, life safety codes, specifications and site engineering. Such subjects are most often taught as peripheral to the design studio and as having little or no spatial consequences. This format offers the student (architect) no opportunity to engage in the objective consideration of **architecture as building (construction)**. More importantly, the student (architect) is denied access to critical methods and tools to visualize formal architectural propositions as fundamentally composed of, and driven by, construction. With a limited number of courses and even fewer design *detailing paradigms* available in the teaching of **technics and detailing**, the resultant tectonic knowledge is often superficial and abstract, and relies on the formal, rather than operational, aspects of building.

Without the focusing armature of a viable **detailing strategy**, architects must rely on a limited range of detailing sources: proprietary solutions of building systems vendors, the technical consultant's or office detailer's, industry standards, the contractor or builder's field work-around, generic details culled from the architect's bible, *Graphic Standards,* or recycled details prepared for unrelated projects. As a consequence of this haphazard assembly of technical knowledge, the student (architect) soon learns that many detailing decisions are achieved by default. The investigation of **'critical' details** often appears long after the initial design thinking is complete. Many detailing solutions occur in response to a fabricator's questions on a shop drawing, as a hurried reaction to a contractor's query, or even worse, as change orders in the field, correcting ill-considered, perhaps even unbuildable details. Given the tremendous effort necessary to realize

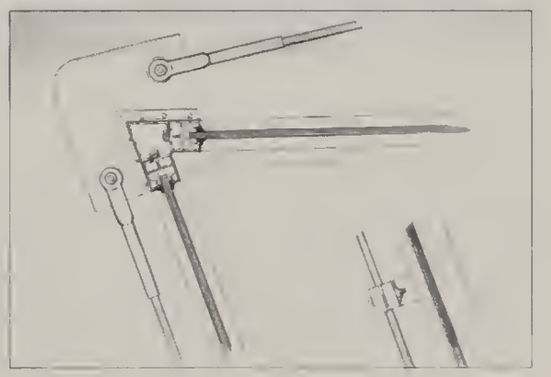
Patrica Anahory-Silva, *Student Project*

Ar-chi-tect [Greek: *architekton,* master builder, French: *architecte,* builder, carpenter]

Joseph Mulligan, *Student Project*



Teresa Senical, *Student Project*



"...It is quite true that the architect should have construction at least as much on his fingers' end as a thinker his grammar." - Le Corbusier

☐ Bruce Harvey, *Student Project*

☐ Obobe, *Musical Instrument in 3 Parts*

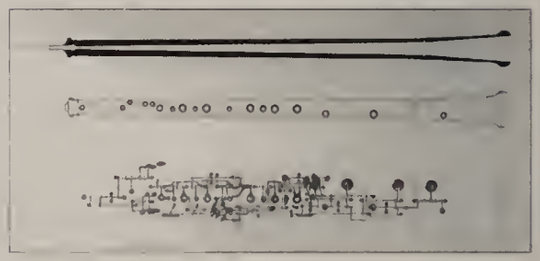


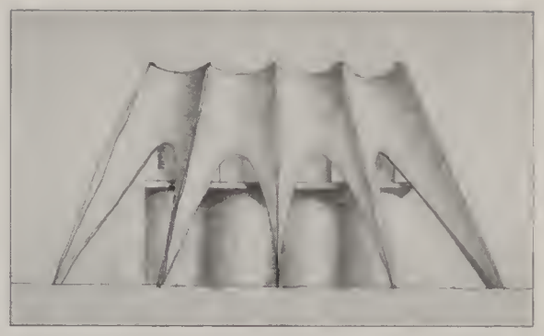
IMAGE FROM *EDUCATION OF AN ARCHITECT*, THE COOPER UNION

"... Every natural object, all organic and inorganic matter, such as plants and stones, possesses a highly complex structure of visible and invisible image. And what of the artificial object: the fridge, for instance, or the art gallery, or the chair you're sitting on? Think of the stone which was used to form the facade of that house or sculpt that statue; when it formed part of the rock or the quarry there was no need to accord it a meaning, it expected nothing, it didn't disturb us -quite the opposite. And now? Broken, cut, and having been given form, it asks to be looked at; and, in the majority of cases, we see it as being degraded with respect in its natural state." - Jacques Herzog (& Pierre de Meuron), **Architects**

architectural projects, the abdication of responsibility (and design opportunity) for this fundamental component in built project success has profound impact on the profession of architecture.

Helping the student (architect) to think critically about architectural detailing and construction involves distinct areas of inquiry. This understanding is best achieved by both a study of building and detailing technology, and experiencing "hands on" detailing design problems in many construction materials mediums. The first part of any study must focus on understanding the **materials basis** of construction. This begins by examining historical precedents and techniques, and the physical nature of materials. A review includes the traditional materials: stone, masonry and wood, as well as the modern materials: reinforced concrete, steel, aluminum and curtainwall. Any study of the body of materials knowledge must also include review of the new materials of technology transfer: hybrid plastic and fiberglass composites, carbon fiber, ceramics and exotic metals. Study reveals that each building material has at its core a set of unique and identifiable constructional and performance characteristics. Use of these *material profiles* allow the designer to develop a detailing strategy when confronted with the wide choice of construction options, and focus the precious time and material choices of architectural effort to maximum benefit.

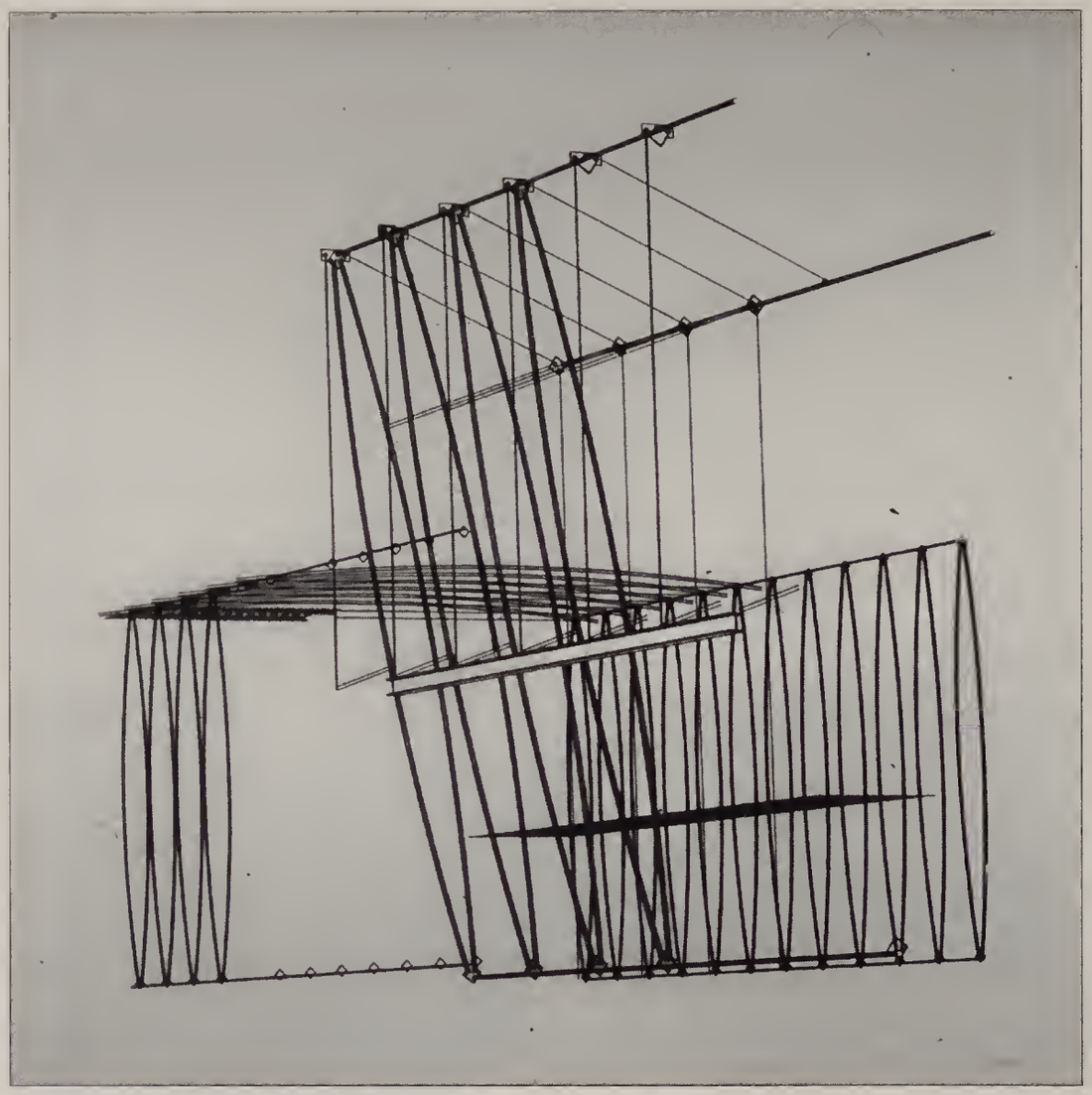
A second line of study investigates the powerful correspondence between building material choices and a clear, sympathetic, **structural nomenclature**. The student (architect) needs to understand how the nature of a material conditions structural response. The selection of a brick, for example, suggests the form of an arch (with all the concurrent structural restraints, constructional difficulties and formal volumetric limitations). This understanding must extend into all areas of modern material technology. The student (architect) should appreciate the correspondence between the great structural capacity and compact section of high strength steel, and its synergistic relationship with pre-stressed concrete. There should be a growing comprehension of the substantial energy efficiency found in the subtle, **ephemeralizing potential** of aluminum and glass curtainwall, as well as an appreciation of the poetic structural efficiencies of the intrinsic line-shape forms of tensile membrane nets and shells. Mastery of these concepts allows the student (architect) to



Don Kupka, *Student Project*

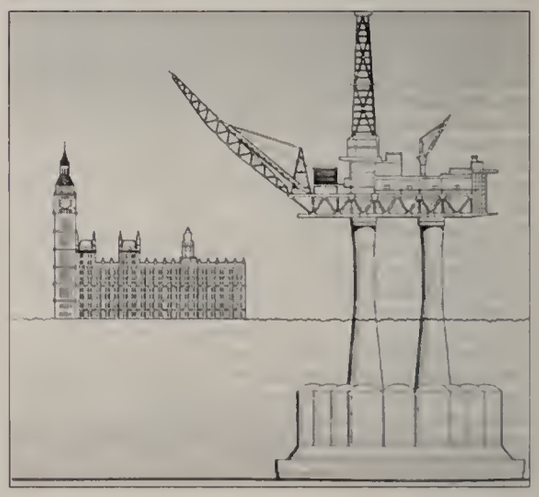
Holly Zickler, *Student Project*

"...The technical efficiency of our overall economy is so low, on an order of five percent... that is, 95 out of 100 barrels of petroleum completely wasted...If we develop efficient technology (that is, investing in genuine ephemeralizing energy efficiency) we could live well within our annual income of wind, solar and water power sources." -R Buckminster Fuller, ***1972 Interview***



☐ Richard Lara, *Student Project*

☐ Traditional and Process Form Building Technology, *Parliament Building and North Sea Oil Rig*



"...Hybrid forms of production (such as building a building) involve some operations that have predetermined results (such as the automated fabrication of a bolt) and some that are performed by the workmanship of risk (such as carving or hand welding). All workmen using the workmanship of risk are constantly devising ways to limit and control the risk by creating such things as jigs, templates ...and even power tools. It is the workmen of other days who made, by the craftsmanship of risk, the prototypes of the machine tools (and prefabricated the sub-components) which are the (formal and) material basis of the construction of today."
- David Pye, ***The Nature and Art of Workmanship***

integrate complex formal spatial designs with logical (read: buildable) structural responses.

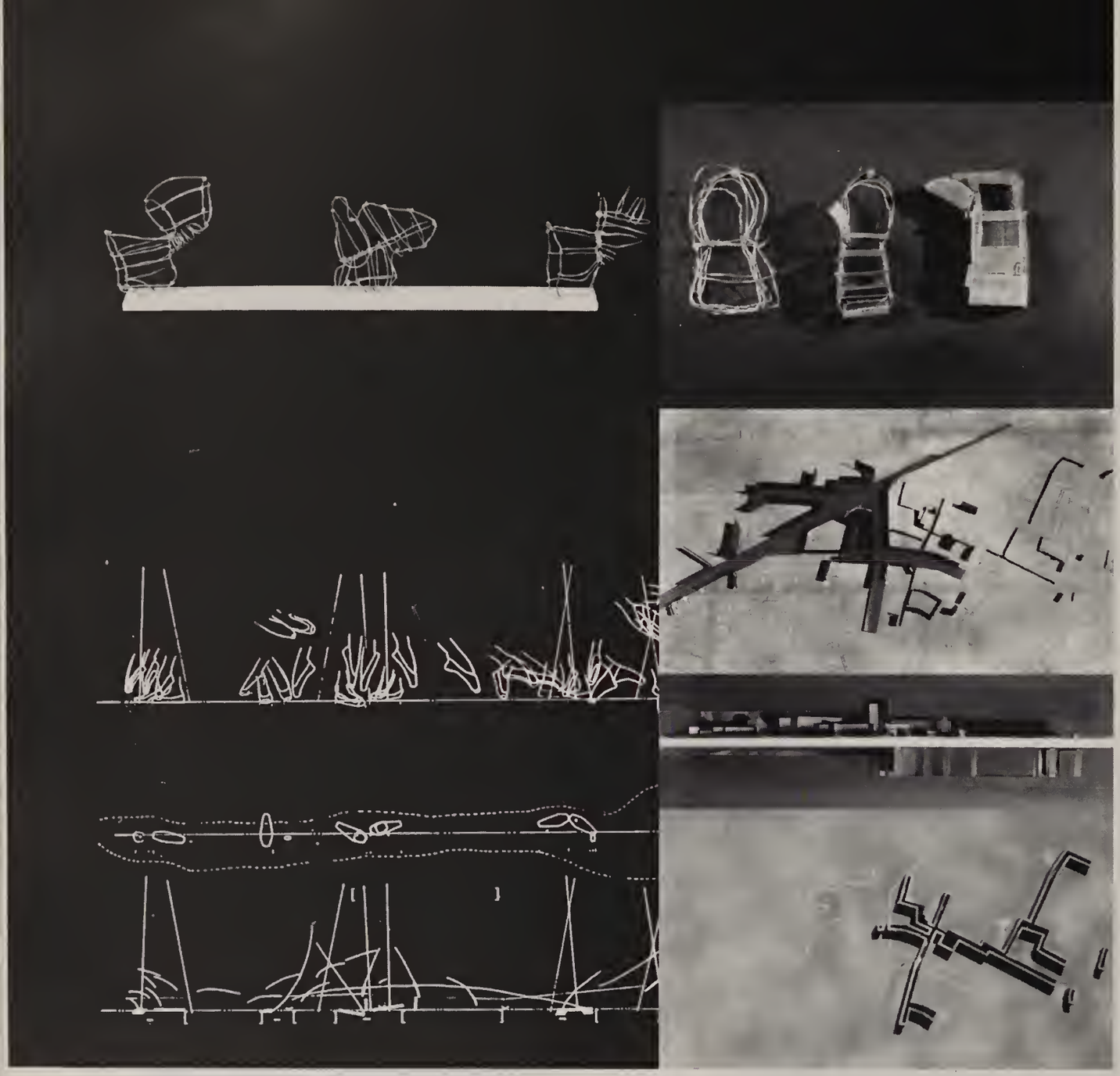
A third component looks at the nature of the construction process and focuses on the risks and certainties inherent in the *dialectical nature* of craftsmanship. The student (architect) must understand the strength and beauty of manual craft dexterity, as well as the emancipatory power of modern building technology, tools and techniques. The student (architect) must begin to define the limits of the architect as designer of built work, and acknowledge the reliance on the *synergistic contribution of the builder*. He must gain insight into the stringent initial planning demands and high tolerances of **industrial process form,** and its impact on design. The student (architect) must understand the differences between building within the constraints of an *open system* of off-the-shelf components versus a *closed system* that requires custom fabrication and multiple prototypes.

The construction of buildings unites a wide range of detailing decisions. The decisions are generated not only during the conception of a detailing theory but during the process of realizing a built work as well. Rarely does an architect contribute across the full range of building, as the designer, supervisor and, rarest of all, builder of the actual construction works (Robert Maillart, Jean Prouvé or Pier Luigi Nervi are extraordinary exceptions). Instead, the opportunity for the student (architect) is most often at the level of **individual building detail** and its explicit construction form. At this scale, operating in the most tactile and immediate design presence possible, the student (architect) has the means to contribute to the primary tectonic fabric of architecture. This building knowledge forms the foundation of the design process and is fundamental to the definition of architecture. To participate in this dialog, the student (architect) must possess an *understanding of material performance, construction logic, and the detailing potential of industrial process form.* When this understanding is linked with the curiosity to explore architecture's many allied fields of manufacturing, fabrication and construction in search of sources of appropriate **technology transfer**, the student (architect) holds the promise of realizing critical, objective, and most importantly, resource-responsible buildings.

Mark Spielberger, *Student Project*

Joseph Mulligan, *Student Project*

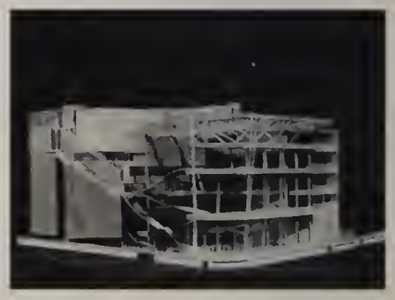
"... I believe that in architecture, as in all art, the artist instinctively keeps the marks which reveal how a thing was done. The feeling that our present-day architecture needs embellishment stems in part from our tendency to fair joints out of sight, to conceal how parts are put together...If we were to train ourselves to draw (and think) as we build, from the bottom up, when we do, stopping our pencil to make a mark at the joints of pouring or erecting, ornamentation would grow out of our love for the expression of method." - Louis Kahn



"But from another point of view, this line was very mysterious. For it was nothing other than the path of the dancer's soul; and he doubted if it could be found unless the operator imagines himself at the puppet's center of gravity – that is, in other words, to dance."

On Maroinette Theater,
Heinrich Von Kleist

In dance, two lines exist, the external and the internal, that define and organize space. The public perceives the external lines of the dancer's body which define space, while the dancer uses the invisible internal line (or structure) to organize the space. This same phenomenon exists in the site with the streets being the external public path and the back alleys of the site (which connect the theaters throughout the district) are the hidden/internal system. The two systems establish a link between space making in dance and in architecture. The movement of the exterior/public paths and the interior/dancer path generate and define the space of the building.



Thesis: **Dance Center**
HEATHER CRICHFIELD

1883/Architectural Association of Boston forms

The attempt to build a building for the study of building: cyclically self-referential; not easy to strike balance within a vortex. Precedent and possibility overlap in a place for studying and critiquing convention; is it

1889/Boston Architectural Club incorporates and establishes first home: 6 Hamilton Place, above the Orpheum Theater; *tables, chairs, bookshelves and a piano in the corner.*

possible to establish a critical education?

Interstitial space offers such an opportunity to confront simultaneously convention and criticism. Traditional western notions (building patterns) of objective space and discreet form dissolve in the city fabric. Spaces overlap and combine, claimed at once by numerous structures. Dualities emerge amidst the elision.

1895/Club moves to 5 Tremont Place

This building about building attempts to construct non-discreet space alongside its conventional twin. It is a critical study in the making of space, inspired by context.

Thesis: **[a]new BAC building**

1900/Club purchases 14 Somerset Street on Beacon Hill; renovations to the building will continue for twenty years.

DAVID RIFKIND

"Interval...The word results from the coupling of inter (between, among) and vallum (palisade or wall, from vallus, post or stake). 'Interval' literally means "between the walls." It suggests a place which might be

1905/Club hangs its ornately carved front door

occupied, a space. It elicits a number of images. One is the place between or among the walls of a labyrinth - the place of wandering, of seeking, of exploratory movement which might be mapped.

1910/Club annexes 16 Somerset Street; Great Hall constructed - a two-story space with leaded windows and a large hearth, it was used for lectures, dinners, exhibitions, and as the entry.

"Maps themselves exist in intervals. Maps are not what they purport to be. They have something to do with representing places - geography; but they are as importantly about time - chronology, what we do, how we move through. Maps, then, exist in the interval between reality and those who order the experience of it.

"The schema of a map's generation - that experience of reality - is embedded in the map itself. This suggests a second image of interval: the place within the wall of an object in which lie the tools of that object's generation. That kind of object, then, contains the schema, or tools, with which it was made. It is like the Ideal Palace of Cheval or Carlo Scarpa's Abatellis Palace in Palermo, for which working drawings were made on the walls themselves, then covered over with plaster.

1920/F. L. Witton builds Memorial Library (tribute to war dead) to house the Club's books, largely the bequeath of Robert Stearn Peabody

1947/Club becomes the Boston Architectural Center

"A third image is the gap between boundaries, the place where the edges of things come close to touching. The place of architecture seems to be here in these places (as well as in its conventional disciplinary capsule which rather sheepishly embeds itself in an imagined wall between art and science). This architecture is not disciplinary, but interdisciplinary. It seeps out of its capsule and bleeds into the interstices, the intervals among the dissolving walls of other capsules: philosophy, science, literature. Architecture not in a capsule, but in a soup.

1964/After losing Somerset Street property to eminent domain, Center begins building anew at 320 Newbury Street, result of international competition.

1966/320 Newbury Street dedicated by Gropius, et al.

1988/Center annexes 322 Newbury Street

from Jennifer Bloomer,
Vertex/Vortex
a Tectonics of Section

The site

the **air rights parcel** over the Massachusetts Turnpike between Massachusetts Avenue and Charlesgate.

The scenario

The City of Boston is seeking **development proposals** with the following objectives:

Initiation of a process

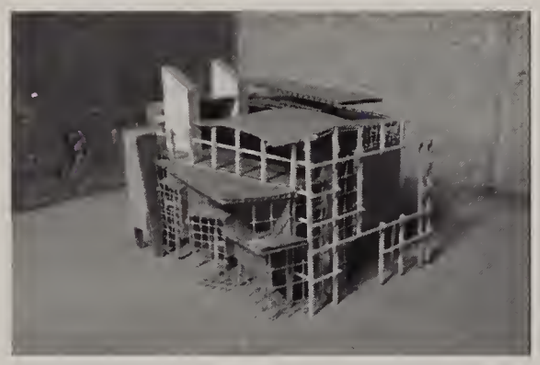
The parcel will be built out gradually, by many hands, setting a course that anticipates and accommodates present and future exigencies is the challenge. A combination of implicit and explicit rules will form an invisible framework, made visible in two- and three-dimensional projection.

Informed integration

Proposals should engage the surrounding urban fabric, interpreting the adjacent city in a way appropriate to late 20th century conditions. Buildings, streets and open space components of the proposal should maintain (existing) or encourage (lacking) qualities of Back Bay form and use.

Programmatic goals

The ultimate build-out of the parcel is intentionally unspecified - we wish to allow for the richness that grows from incremental development. There are, however, certain programmatic elements to be sought: *Mix of uses* - allowing a diversity of uses, i.e. residential, commercial, institutional; *Open space* - provision of usable (useful) open space, possible link to the Back Bay Fens; *The "hub"* - a new public focal point for the proposed parcel and the surrounding city.



Rick Robinson

Dale Taglienti, *student project*

Segment II Studio:

Bill Boehm, instructor

Architectural Urbanism

Observation and documentation
of existing urban environment - factual, objective

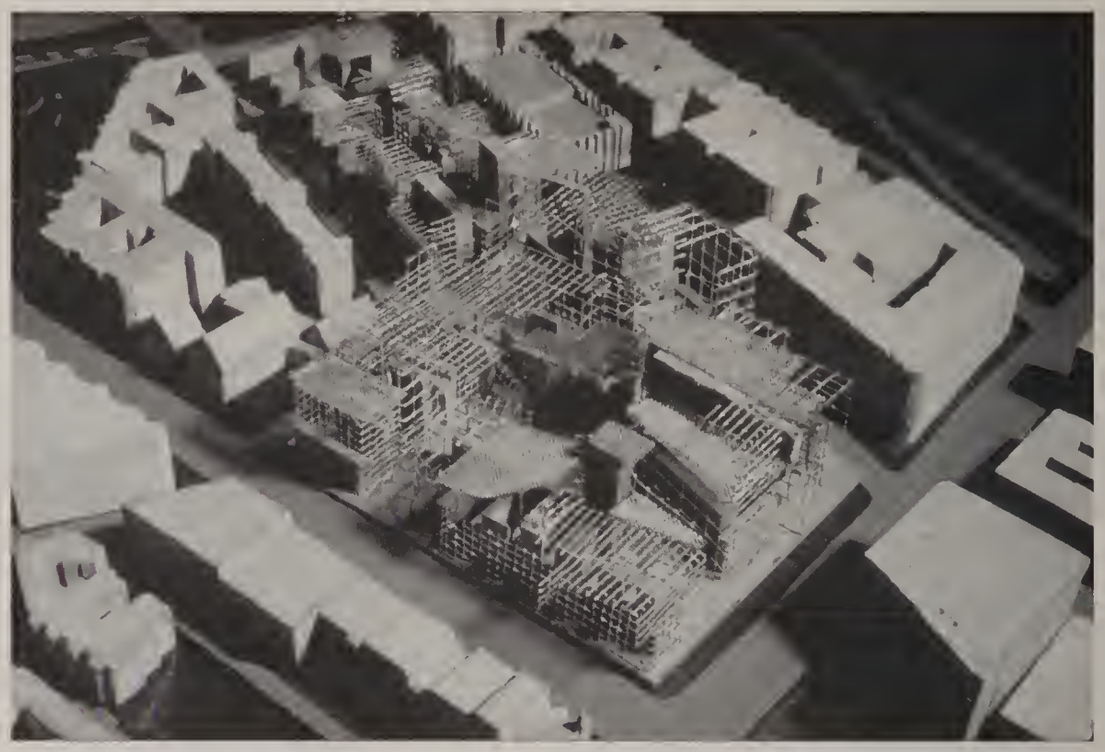
Interpretive analysis
of key urban phenomena - inspirational, generative

Codification
of analysis - translation to codes/patterns for design information

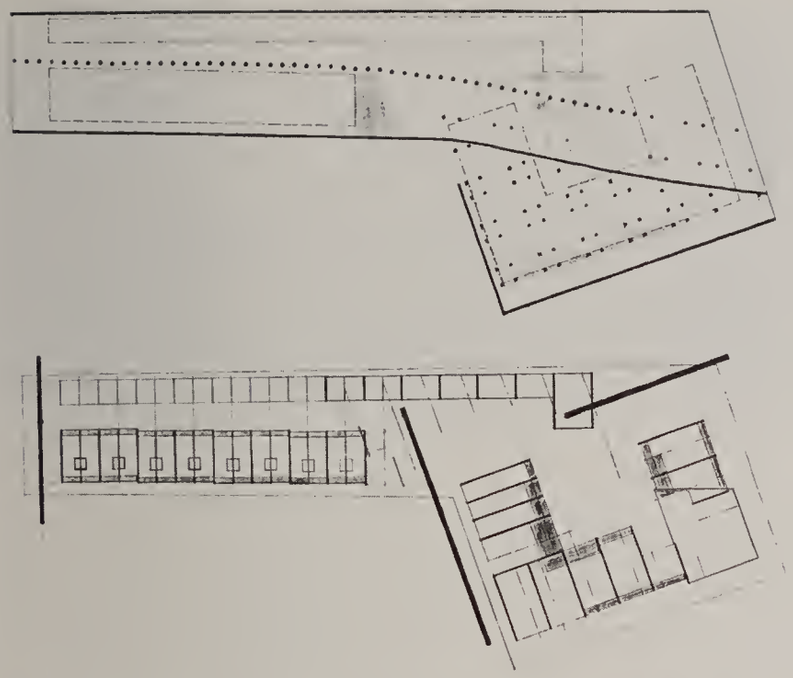
Assemblage of formal elements
organization of site into framework for development **palette:**

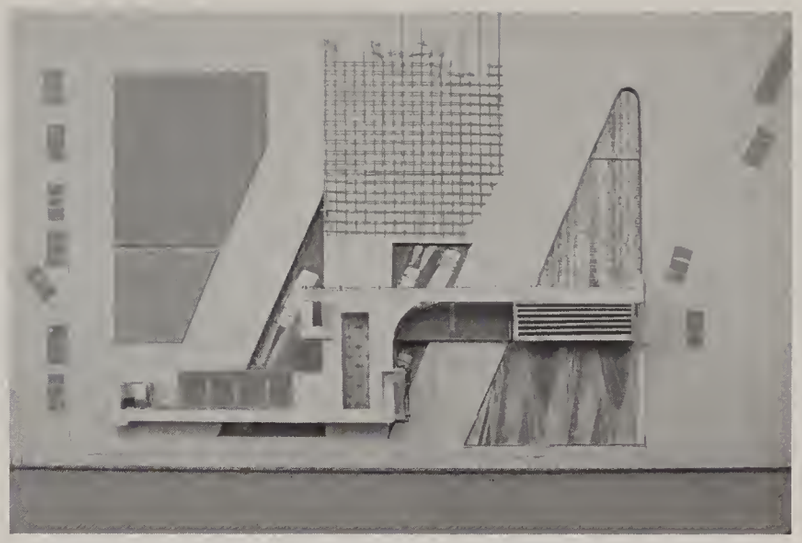
ground plane(s)
mass
structure

Intervention diagrams
drawings at various levels of intervention:
Initial infrastructure:
roads, landscape, site fixtures, vent stacks, etc.
Rules:
uses, set-backs/ build-to's, parcels, guidelines
A projection:
anticipated build-out

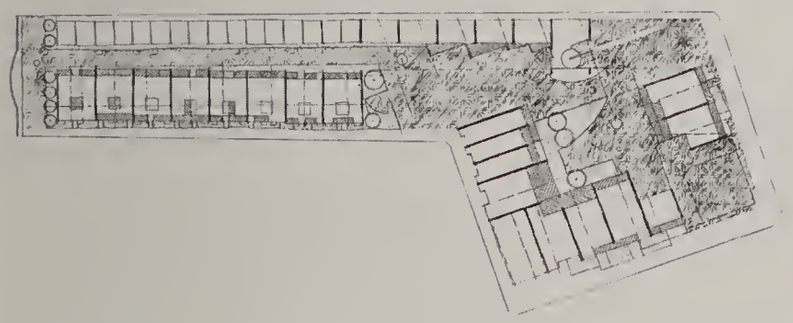


Eric Mitchell





Bill Finerty



Sebastian Patane

An effort is made *to recognize and address the harsh realities of contemporary urban development. The role of the architect is diminishing to that of a technical/ aesthetic service-provider to the power brokers of the urban environment: the financiers, developers, civic associations, and government forces.*

The studio explores the potential of rigorous formal research, analytic abstraction, and intuitive investigation to generate urban and architectural form. The designer sets a framework for development that embodies and suggests qualities and formal characteristics that will accommodate the hands of countless unforeseen participants, without dictating style or use. The challenge is to employ infrastructure to encode our environment with a formal logic and a spirit, that allows, even encourages interpretation.

Urban Architecture

Precedent research
search, study, presentation of **public** urban architecture

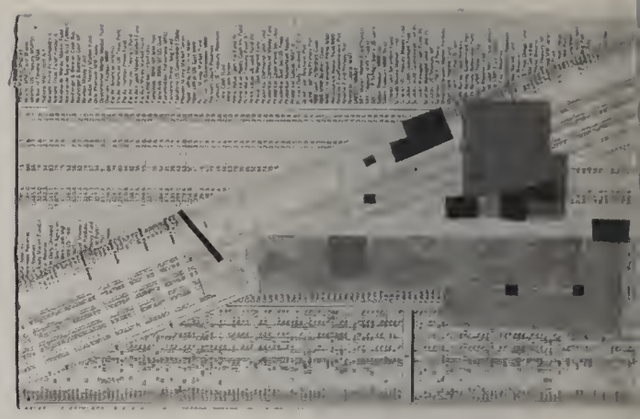
Paper collage diagrams
intuitive exploration
precedent analysis
'hub model' analysis
design studies

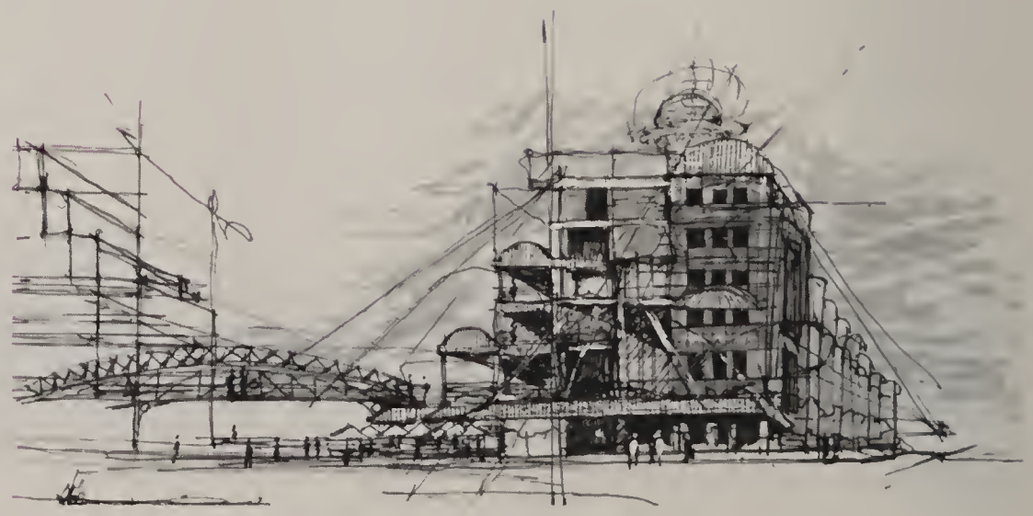
Palette:

public space/*access*
private space
function
structure
site

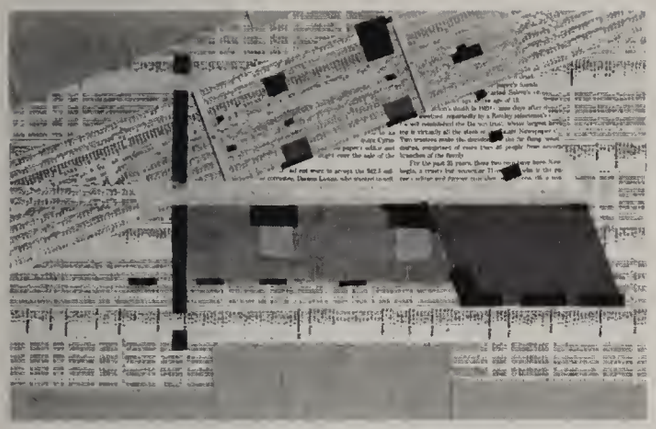
Built collage
Three-dimensional design studies from diagrammatic to explicit with self-selected palette

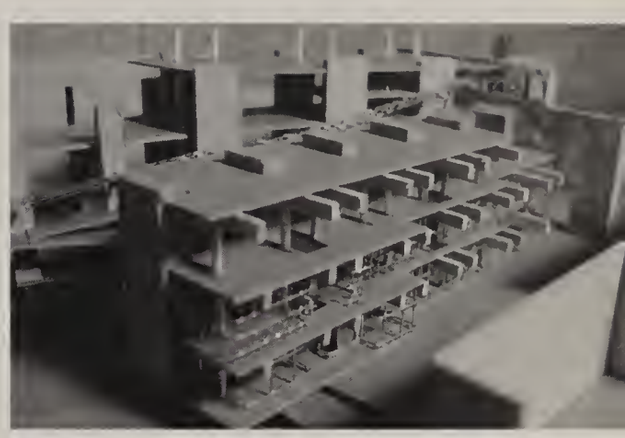
Architectural drawings
plans, sections and elevations of design proposals



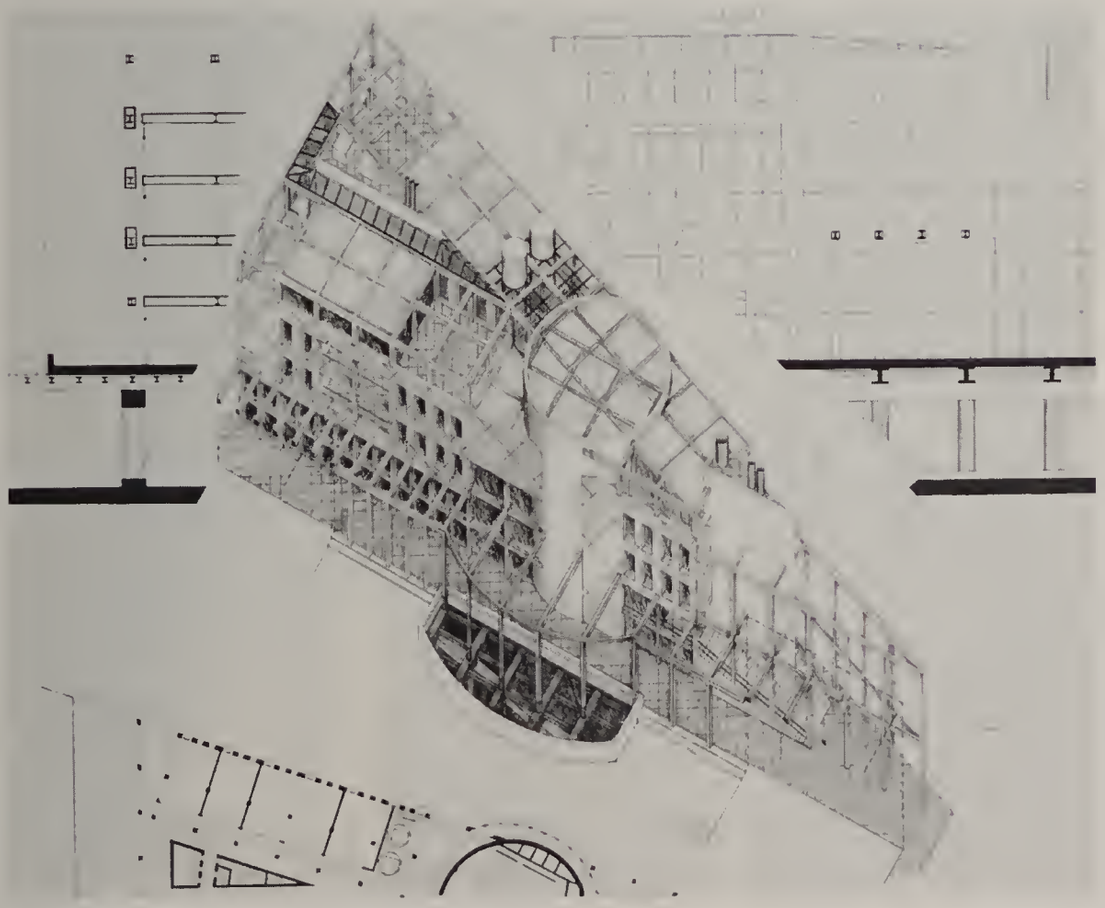


Rick Robinson





Cesar Dedios

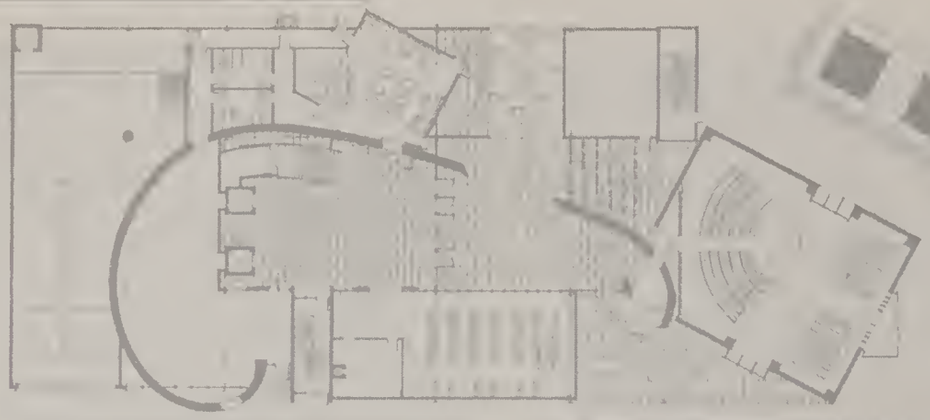


Giancarlo Del Vita

The test and model *for the development framework is the design of a 'public hub' for the site. The quality of a city is reflected in its public architecture. Look critically at our 'public realm' and at those of other cultures, times and places. Can built form accommodate and encourage contemporary public life, while generating and illuminating an urban code?*

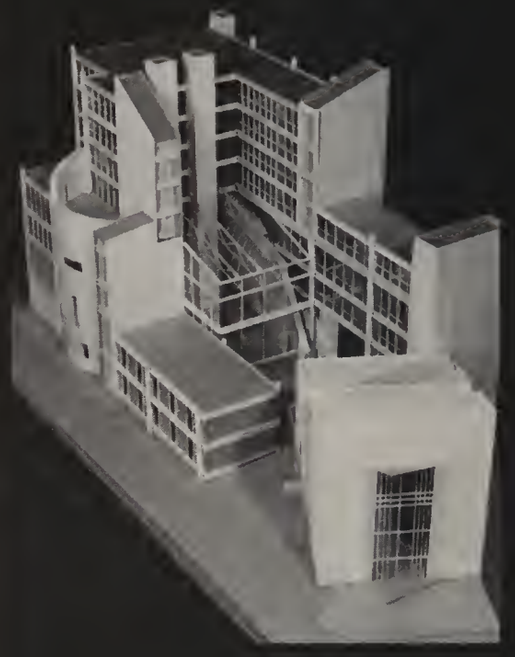
Collage and assemblage *are employed as methodological tools to reconcile the complexity of urbanism and architectural form. The dialectic relationships of urban form-and-development guidelines, and architectural form-and-use are approached by way of 'assigned palettes'.*

Materials are assigned meanings, and worked to explore design possibilities. These abstractions are generative- not to be mistaken for urban or architectural proposals, but to bridge the gap between intent and solution.

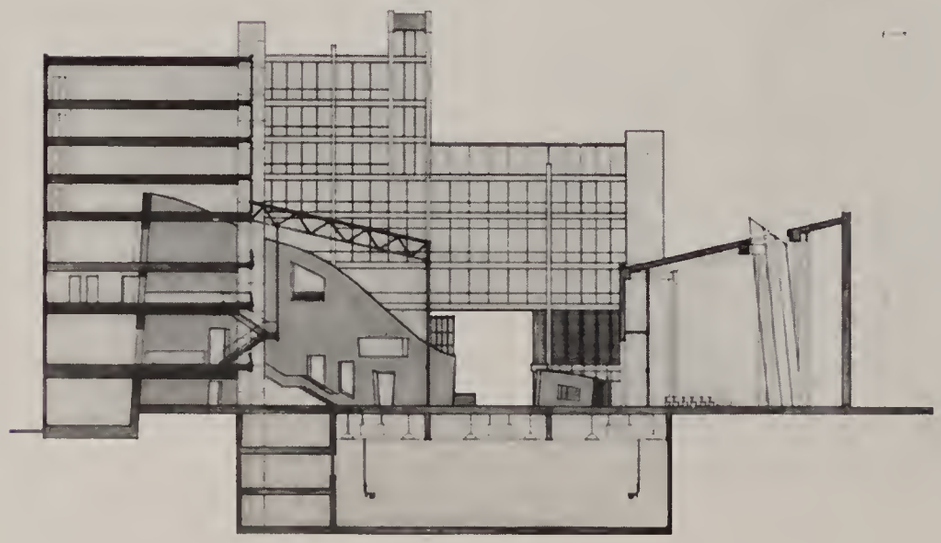


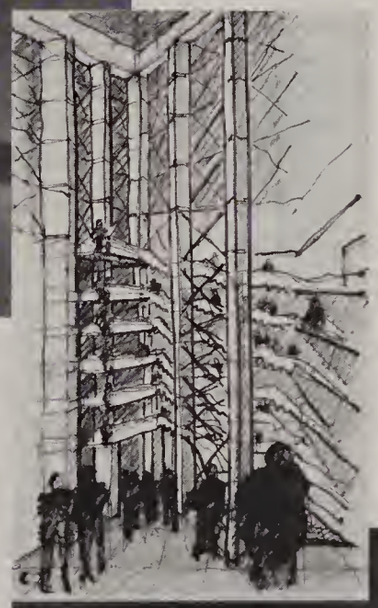
Thesis: **A Roman Catholic Seminary**

REGINA BLECK



This is not just a Roman Catholic seminary, but a truly 'c'atholic (universal) seminary that questions the boundaries, both internal and external. The theme of this seminary and its architecture is to invite and unite all persons to join in an exploration of their inner selves; in relation to each other, today's society, God, and the Catholic Church. The architecture employed must express and facilitate this concept. The division between the interior and the exterior must be challenged, dispelling the sense of "us'" and "them" through an open architecture, which links both the seminarian and the neighbor, the Back Bay and the South End.





Thesis: **Museum of Modern Art**

MARTIN SMITH

This thesis investigated the role of art and architecture in our culture through the vehicle of the "accessible" museum. My intent was to investigate, explore, and state an attitude about where and how art and architecture exist in our society and the role each must fulfill.

The method employed to meet this challenge has evolved from a study of modern painting. Specifically the idea of Cubist space, which simultaneously displaces and creates space. This duality seeks to blur the distinction between solid and void and served as a metaphor for accessibility in an effort to diffuse the hard edge of any physical, cultural or conventional barriers.

The design is intended to be understood only as a conceptual representation of this formal theory of space. The first component of this theory is the "figure or solid," the second is the "space or void." The "figure or solid" occupies or displaces space and is characterized by words like finite, bounded and solid. The "space or void" creates or divides space. This notion is described with words like infinite, boundless and diffuse.

My early research dealt with the role of art and architecture: to elicit a response from the public, to challenge them, to stimulate them, and to engage them. To achieve this role I have sited the building at Copley square affording this program the highest level of visibility and accessibility.

Professional Work:
Giancarlo Del Vita

Transformation of an old church into the Bulthaup furniture store, Lucca Italy

Design Team
Angela Chiantelli, Architect
Giancarlo Del Vita, Designer

Site
The seventeenth-century Oratorio di Santa Zita in Lucca's ancient Roman amphitheatre

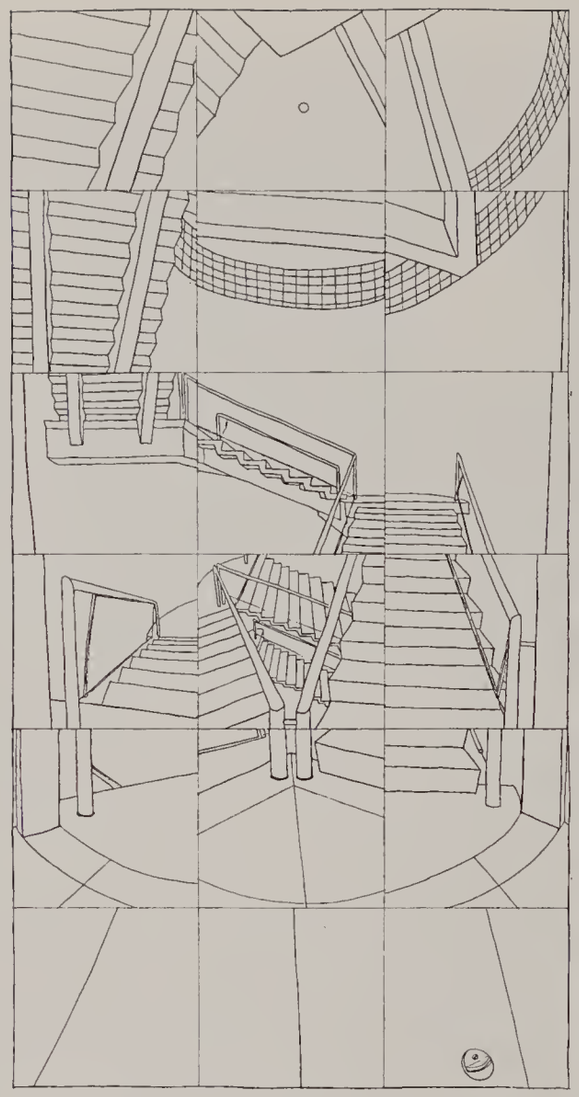
Program
180 m^2 (1620 ft^2) furniure store including office and services

Major materials
Terracotta tiles, Santafiora stone, coconut fiber carpeting, metal, glass, wood, bronze, Venetian stucco, faux marble finish

The ground floor is an open-space exhibition hall for the display of larger objects. The main spatial intervention is the new second level, another exhibition hall for smaller objects. In designing the loft and the bridge connecting to the small office, we were concerned to keep them as distinct inserts, separated from the original structure and easily recognizable, to emphasize the difference between old and new.

During the renovation of the basement, the original Roman walls were brought back to light, and to respect their integrity, we designed the new stone wall detached from them, repeating the typology applied for the second floor.

Careful attention was given to the facade fronting the oval piazza of the amphitheater, where an uninterrupted sequence of arches follows its whole perimeter. To keep this continuous dominant theme, we avoided any disruptive signage and we had the large glass windows grow directly the walls, and particular care was given also to the design of the logo, engraved in the glass.



L O O M

Glance; Glean

Fig. 1, 2

The Nude had been subjected to an incessant gaze since the unveiling. Seeing only a sensual body, the viewers failed to recognize a dynamic mind. Feeling trapped in a frame of inactivity, the Nude sought exercise. Of angelic spirit, the Nude had instinct to guide and felt compelled to reveal **invisible forces**, processes and structures latent in the environment. Escaping through the stair of the Museum, the Nude was at once free to promote awareness of the incomplete and the **specifically temporal**.

Coming into the real world in a state of perpetual motion, the Nude apprehended reality through the opportunity of **the glance**. Lacking figural company, the Nude searched for companions through a series of glances and discovered them in a geometric approach to the process of representation.

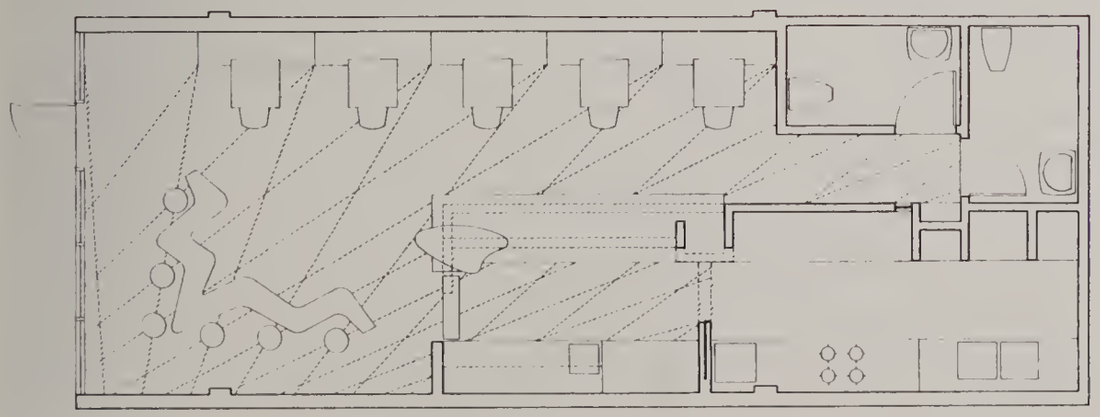
glance v. 1. To strike and be deflected. 2. To look briefly.

The Nude understood the power to **limn desire**. The Nude led the companions to a cafe where they filled the space; the Observers took to the serpentine counter and the Observed slid in along the continuous bench below the angelic wall. Scribed on the floor and wall were lines of connection striking and deflecting off of stools, tables, bench and wall. Fields of individual vision defined in the continually **shifting glances** fragmented forms, planes and surfaces within the space. The Nude saw clearly the potential for revealing **hidden forces** latent in a space. Leaving the companions and the cafe, the Nude slipped into a theater to watch the epic *Peter Pan*.

Fig. 3,
The companions

PHOTO M. ROBERT MARKOVICH

Fig. 4,
Observers glance



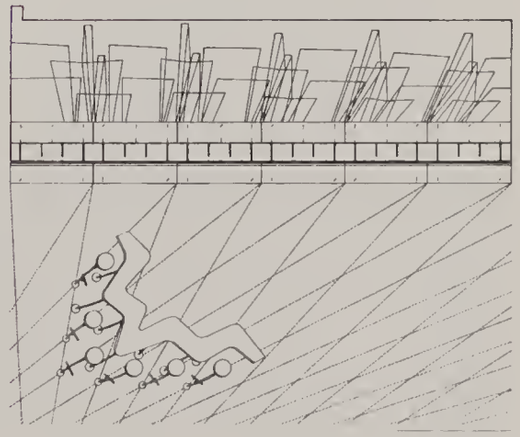


Fig. 5, 6,
The cafe

Fig. 7, Peter, Shadow, Wendy

Peter makes his appearance in the film flying into the nursery, searching with Tinkerbell for the shadow that had escaped him. The Nude was surprised to find Peter's shadow independent of his body. Assuming the shadow dependent upon the body, the Nude contemplated the significance of this event. It was clear that this was only an **imaginary phenomenon** (this was, after all, Hollywood) yet the Nude felt this shadow, as all shadows, possessed **independent life** and soul. As Wendy sewed Peter and the shadow together again the Nude wondered whom was cast first, and if their relationship was one of co-dependence. If they were independent of each other why would Peter need his shadow joined with him once again?

Interested in understanding the imaginary shadow in greater depth the Nude visited the library. Discovering a text predating animated film, the Nude found a lucid definition of **imaginary shadow** under Principle 27 in the *Manual of Shadows*, published in 1872 by Harper and Row.

Fig. 8, The memory

Principle 27. Definition. Imaginary shadows include: 1. The shadow of an object on a surface, cast through a solid body. 2. The shadow of an imaginary object, or a real object extended. 3. Shadows on imaginary surfaces, or real surfaces extended. 4. Shadows cast backward, toward the sun. ***Such shadows never appear on a finished drawing, but they are often used for purposes of construction.***

The Nude studied seriously, understanding that all definitions are dependent on context and creative interpretation. The relationship between Peter and the shadow was clear if **not distinct**; the real or imagined may cast a shadow and the shadow may cast back to the real or the imagined. Objects or surfaces may exist within this relationship, each dependent upon the other in some way. Seeing the relevancy of shadow in both real and imagined environments, the Nude was particularly inspired by the potential use of shadow in construction.

Fig. 9, The chair

shadow n. 2. The outline of an object that casts a shadow. 7. A remnant. 8. A slight trace. v. 3. To represent vaguely or mysteriously. 5. To follow after; especially in secret.

Tiring of speculation the Nude searched for a chair on which to rest, but found only

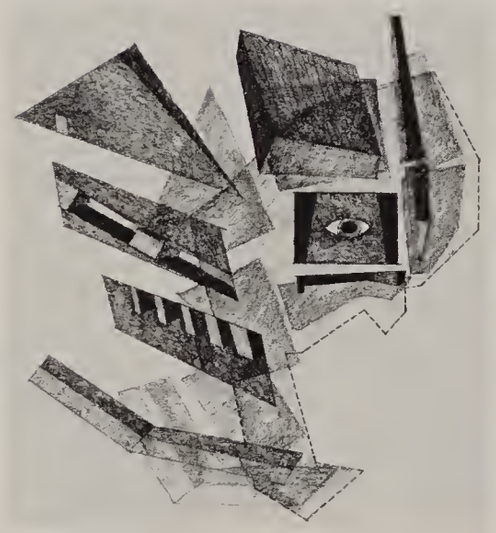


Fig. 10, The eclipse
Fig. 11, The dispersal
Fig. 12, Shadow projection

Fig. 13, Eye opening

the **lingering memory** of one from the past. Under a bare light bulb near the door, a chair with its shadow once stood, and the Nude remembered sitting there.

Within the enclosure of this memory, and in the space defined by the shadow, the Nude outlined a new chair following Principle 27, Rule 3 in the *Manual of Shadows*. Extra planes were added to accommodate the multiple limbs of the Nude.

chair n. 2. a. A seat of office, authority, or dignity.

This new chair was a remnant of the original chair with its shadow; a **vague representation** of something that once existed in reality, but now occupied the imagination. This chair followed the body of the Nude in form, illustrating the **restlessness** of a body held in space. With frames of rod the **chair** was an outline of an object that once cast a shadow and became a **rendered shadow** itself through gossamer planes of wire cloth held within the frames. Constructed of stainless steel, it was a **shadow built to last**.

Sitting in this new seat the Nude rested and soon had a dream, a dream of light and darkness, like in an old film. The sunlight rained down upon each scene and the Nude remembered **pockets of shadow** distinguishing themselves from the brilliant light. At one moment in the dream the **moving light** was eclipsed and a shaft of light pierced the darkened space, casting the image of the Sun's eye to the ground.

A moment later the shadows dispersed, the eye closed and the Nude awoke. The dream coalesced onto light-sensitive paper, preserving the moment of the eclipse and illustrating the Sun's eye. The Nude was moved by the dream and kept the image close at hand.

Speculating its purpose, the Nude passed down an alley and witnessed a **staircase emerging** from a shadow on a wall, moving quickly towards the light. The Nude recalled Principle 27, Rule 4 about shadows cast backward toward the Sun. The Nude also recalled how these shadows are often used for purposes of construction. From the record of the eclipse the Nude began a stair construction that emerged from the darkness and **took flight** towards the Sun.

stair n. 1. A flight of steps. (flight n. A soaring, as of the imagination.)

Fig. 14, The emergence

Fig. 15, North side and entry
Fig. 16, Stair with constellation Argo beyond

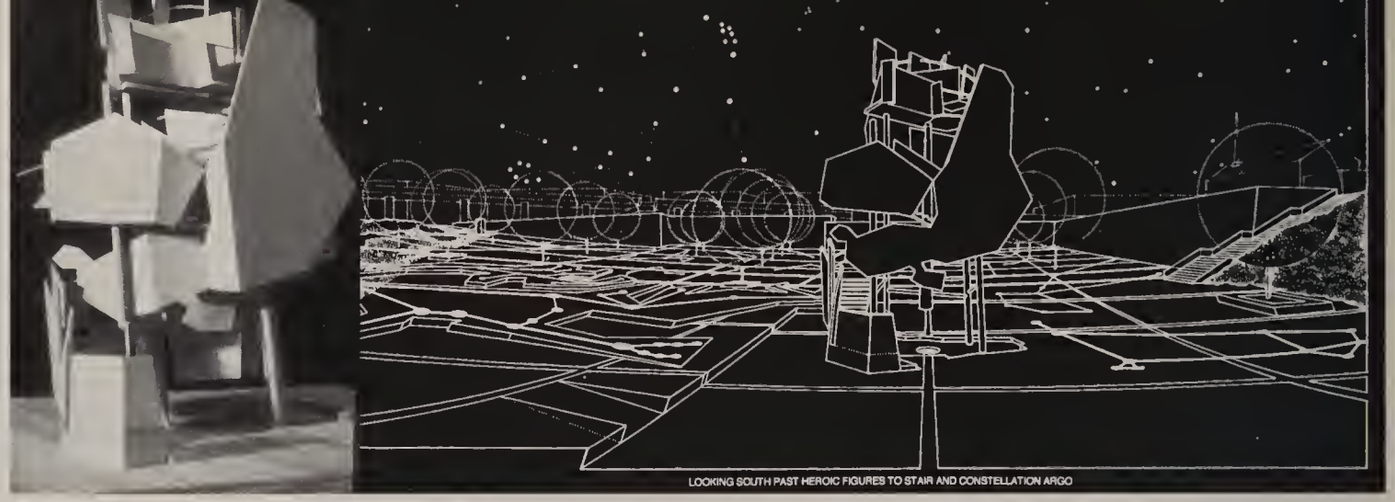


Fig. 17, South side with prospect sights
Fig. 18, Star Park site plan

Figure Credits

All drawings by authors, unless noted

Fig. 1 Stair, Yale University Art Gallery
Fig. 2 *Nude Descending a Staircase*, Marcel Duchamp
Fig. 3 Basil Cafe, process drawing
Fig. 4 Basil Cafe, elevation
Fig. 5,6 Basil Cafe, plan
Fig. 7 *Peter Pan*, Walt Disney Productions
Fig. 8 Regular chair and shadow
Fig. 9 *Temporal Chair*, stainless steel rod and stainless wire cloth.
Fig. 10 Eclipse photograph
Fig. 11 The dispersal
Fig. 12 Shadow projection
Fig. 13 Eye opening model
Fig. 14 Shadow with stair
Fig. 15 Shadow shape
Fig. 16 Star Park
Fig. 17 Shadow shape
Fig. 18 Star Park
Fig. 19 Lair/shadow shape drawing
Fig. 20 Lair model

Ascending through pockets of shadow up six flights of steps the Nude paused on the seventh landing, and constructed an aperture controlling the Sun's gaze for opening day of the Olympic Games. The aperture focused light through the eye of **the stair** which in turn projected the Sun's eye to the Earth, celebrating this heroic day on which the Nude had fled the museum and saw the light.

Surveying out from the seventh landing, the Nude engaged the expanse of Star Park, which spread out below as an inverted dome. A blimp passed overhead, projected Star

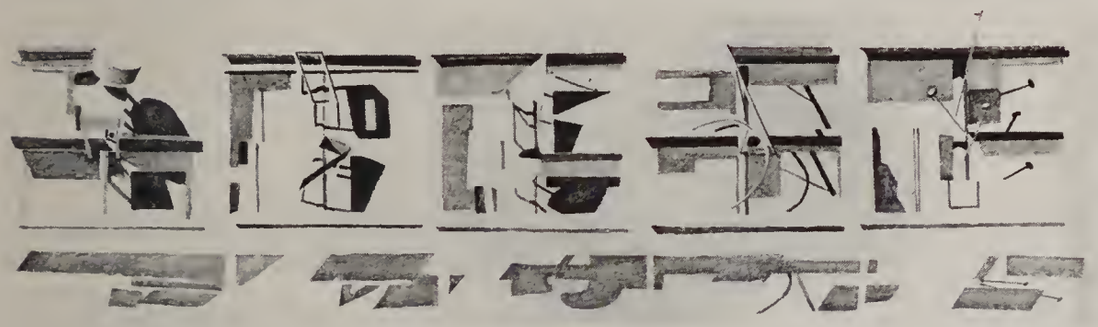


Fig. 19, 20, The lair

Park to an orbiting satellite, and moved on towards the horizon. From this priveledged **vantage point** the nude saw the horizon with stirring desire. Longing for this infinite edge, the Nude set out for it through extended construction. With the memory of the Museum vanquished, the Nude gave shape to a more **genuine dwelling**.

lair n. The den or dwelling of a wild animal.

Constructed on Principle 27, Rule 2, **the lair** took form around the shadows of real objects extended. Seeing the world composed of points, lines, planes, volumes and solids led the Nude to select these elements for purposes of extension through shadow into the space of the lair. Constructing one space each day, the Nude hoped to leave a trace of progress while **forging ahead**, tangent to the gently curving ground. From this perspective the Nude could learn of the world by projecting it within. **Pacing naturally**, the Nude wondered how long it would take to reach the edge.

Raised above the earth, accessible from the stair, the lair poised the Nude in space, oriented to the horizon. Bringing the **chair** up the **stair** into the **lair**, the Nude contemplated this tenuous state of being.

Contributors

Eytan Fichman is Director of Foundation at the BAC.

Laura Robinson's research and design work focus on the interface between structure and design. She holds a BSE in Civil Engineering and Architecture from Princeton University and an MArch from Harvard Graduate School of Design. She served as the Director of Education at the BAC from 1990-91, where she taught both design studios and architectural theory. She currently teaches at the Rhode Island School of Design.

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Bradley Johnson was graduated from the BAC in 1989, and holds a BA in Psychology from the University of Connecticut. He is a registered Architect currently working at Leers, Weinzapfel Associates in Boston. He acted as Job Captain and modelmaker for the MBTA Operations Center project.

Anthony Frausto-Robledo is a fifth-year student at the BAC. His paper was the product of research in theory and history during a third-year independent study with faculty member Eric Thorkildsen.

Thesis students Martin Smith and David Rifkind were graduated in 1992. Heather Critchfield, Regina Bleck and Scott Thomson were graduated in 1993. Cathy Bell continues to pursue her studies.

Santiago Perez is an architect teaching design & theory at the BAC. He is a thesis critic and advisor with an interest in philosophy. In 1992, he completed a post-graduate fellowship in Japan, awarded by Harvard University.

The Rolling Bridge Initiative is a non-profit organization founded by Michael J. Tyrrell, an architect and activist. Michael was graduated from the BAC in 1987, and has taught design studios at the Center. Paul Lukez is an architect practicing in Boston. Scott Sindorf contributed to the Initiative's work.

A practicing architect and urban designer, Keith Hudson has been both a design studio instructor and a thesis advisor at the BAC since 1989.

A practicing architect and artist in Boston, Eric Gould's interests are firmly rooted in the cross-fertilization of culture, art and architecture. His works and proposals have been regularly published in design and art journals including Sculpture and Art New England. He received the Massachusetts Council on the Arts and Humanities Fellowship in 1989. A critic and thesis advisor at the BAC, he is also a member of the architecture faculty at the Wentworth Institute of Technology.

Paul Naecker is a registered architect teaching the *Technology and Detailing Studio* at the BAC. He has worked at Kohn Pedersen Fox in New York and currently, as project architect, is overseeing the construction of a large urban hospital tower in Boston for Dean Tucker Shaw Architects. He has also maintained a private practice for the past 14 years, in New York City and Cambridge and has taught the *Technology Studio Sequence* at Columbia University's Graduate School of Architecture. He was educated at Tulane University and the Boston Architectural Center.

Bill Boehm directs the Boston Architectural research Center (BArC) and the BAC's Continuing Education program, as well as teaching design studios and practicing design. His interests lie in the areas of affordable housing design, vernacular architecture and collage design methodology. He holds degrees from MIT and the University of Colorado, and has worked in California, Africa and Turkey.

Loom is both noun and verb, apparatus and action. Loom is Raveevarn Chocksombatchai and Ralph Nelson, collaborative practitioners and educators. Loom makes no distinction between theory and practice, between speculation and realization.